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DEPARTMENT OF DEFENSE AUTHORIZATION FOR APPROPRIATIONS FOR FISCAL YEAR 1991

HEARINGS

BEFORE THE

COMMITTEE ON ARMED SERVICES
UNITED STATES SENATE

ONE HUNDRED FIRST CONGRESS

SECOND SESSION

ON

S. 2884

AUTHORIZING APPROPRIATIONS FOR FISCAL YEAR 1991 FOR MILITARY ACTIVITIES OF THE DEPARTMENT OF DEFENSE, FOR MILITARY CONSTRUCTION, AND FOR DEFENSE ACTIVITIES OF THE DEPARTMENT OF ENERGY, TO PRESCRIBE PERSONNEL STRENGTHS FOR SUCH FISCAL YEAR FOR THE ARMED FORCES AND FOR OTHER PURPOSES

PART 1

U.S. MILITARY POSTURE
BUDGET OVERVIEW
DOD OPERATIONS
MAJOR AIRCRAFT REVIEW
DOE ACTIVITIES
UTILIZATION OF RESERVE FORCES
DOD ACQUISITION PROCESS
DEFENSE BUILD-DOWN STRATEGIES

FEBRUARY 1, 27, 28; MARCH 1; APRIL 26; MAY 1, 10, 17, 24, 1990

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THURSDAY, FEBRUARY 1, 1990

U.S. SENATE,
COMMITTEE ON ARMED SERVICES,
Washington, DC.

AMENDED DEFENSE AUTHORIZATION REQUEST FOR FISCAL YEAR 1991 AND THE FIVE YEAR DEFENSE PLAN; TO RECEIVE A NET ASSESSMENT FROM THE CHAIRMAN, JOINT CHIEF'S OF STAFF

The committee met, pursuant to notice, at 10:24 a.m., in room SH-216, Hart Senate Office Building, Senator Sam Nunn (chairman) presiding.

Committee members present: Senators Nunn, Exon, Levin, Kennedy, Bingaman, Dixon, Glenn, Gore, Wirth, Shelby, Warner, Thurmond, Cohen, Wilson, McCain, Gorton, Lott, and Coats.

Committee staff members present: Arnold L. Punaro, staff director; Andrew S. Effron, general counsel; Richard D. DeBobes, counsel; Marie Fabrizio Dickinson, assistant chief clerk; and Daniel G. Sakura, research assistant.

Professional staff members present: Robert E. Bayer, Robert G. Bell, Richard E. Combs, Jr., Richard D. Finn, Jr., John J. Hamre, William E. Hoehn, Jr., David S. Lyles, T. Kirk McConnell, Michael J. McCord, Frederick F.Y. Pang, William H. Smith, and Geary Burton.

Minority staff members present: Patrick A. Tucker, minority staff director and counsel; Romie L. Brownlee, deputy staff director for the minority; Brian D. Dailey, Judith A. Freedman, Ronald P. Kelly, George W. Lauffer, John E. Mansfield, Durwood W. Ringo, Jr., Mark B. Robinson, and Ann Elise Sauer, professional staff members.

Staff assistants present: Barbara L. Braucht, Barbara Gallo, Elizabeth Ann Harlow, Lori M. Jackson, Claire M. Kelly, Kelli J. Pronovost, Debra A. Rice, and Mickie Jan Wise.

Committee members' assistants present: Andy Johnson, assistant to Senator Exon; Kenneth N. Luongo, assistant to Senator Levin; William J. Lynn, assistant to Senator Kennedy; Charles C. Smith, assistant to Senator Dixon; Phillip P. Upschulte and Milton D. Beach, assistants to Senator Glenn; Leon S. Fuerth, assistant to Senator Gore; Jefferson B. Seabright, assistant to Senator Wirth; Terence M. Lynch, assistant to Senator Shelby; Melvin G. Dubee, assistant to Senator Byrd; Christopher K. Mellon, assistant to Sen-

ator Cohen; Patrick F. McCartan, assistant to Senator Wilson; Anthony H. Cordesman, assistant to Senator McCain; Lee W. Whittaker, assistant to Senator Wallop; Robert M. Soofer, assistant to Senator Gorton; Charles G. Pearcy, assistant to Senator Lott; and Eric H. Thoemmes, assistant to Senator Coats.

OPENING STATEMENT OF SENATOR SAM NUNN, CHAIRMAN

Chairman NUNN. The committee will come to order.

The Chairman apologizes for being late this morning. I was at the National Prayer Breakfast. It took longer, and we had a very hard time getting out. I apologize to all concerned for the delay, and particularly to you, Mr. Secretary and General Powell.

The committee meets this morning to receive testimony on the Department of Defense budget for fiscal year 1991, on the 5-year defense plan, and on the net assessment of the capabilities of the Armed Forces of the United States and its allies compared with those of our potential adversaries.

I want to welcome Secretary Cheney and General Powell to the committee this morning.

Secretary Cheney did an excellent job in a short time last year in submitting a budget amendment, and this is his first complete budget submission. Today is also the first time that General Powell will present his net assessment and testify before Congress as the Chairman of the Joint Chiefs. So we welcome you both.

The fiscal year 1991 defense budget comes to Congress against the background of dramatic and unprecedented changes in Eastern Europe and the Soviet Union. The distinguished witnesses from in and out of the Government, including Judge Webster, Director of the CIA, former Secretary of Defense James Schlesinger, former Assistant Secretary of Defense Richard Perle, and parliamentarians from our NATO alliances, testified before our committee over the past few days, and they testified in general that in their views the overall threat to the United States and our allies from the Soviet Union and the Warsaw Pact has decreased substantially.

These changes have altered many of the basic assumptions on which our national security policy, military strategy and defense budget have been based for the last 40 years.

Lieutenant General Soyster, the Director of the Defense Intelligence Agency, testified last week in open session, "In light of these developments, I believe that the Soviets would consider large scale theater operations against NATO with their own forces as highly risky, if not impractical."

Earlier this week, former Secretary of Defense James Schlesinger told the committee, "The military balance has been radically altered. How long the Warsaw Pact may survive as a political institution is an open question, but its role as a military alliance and a military threat is largely broken."

The Armed Services Committee will be looking very closely to determine how the 1991 budget and the 5-year defense plan with which we will be dealing this year have been shaped by these and other changes in the world. Has our military strategy been revised in light of these changes and the threat to our national security?

I think it is important to understand what we mean by "military strategy." I do not mean our fundamental national security objectives such as deterring military attacks against the United States and our allies or ensuring United States access to world markets. By "military strategy," I mean the way we structure and use our military forces based on the threat and the resources available to achieve our national security objectives.

What do these changes in the threat mean for our force structure, our overseas deployments, and the future modernization of our military forces? What level of defense spending over the next 5 years is appropriate to deal with the changing threat overseas and to deal with the fiscal constraints at home?

If there is one point that I am going to be emphasizing this year in the budget debate and the Armed Services Committee, it is that we have to take a look down the road 4 or 5 years and see where we hope and expect to be then in order to make rational decisions this year.

Few people realize that this fiscal year 1991 budget marks the 6th consecutive year of negative real growth in defense spending. From fiscal year 1980 to 1985, the defense budget grew by approximately 50 percent in real terms, a very steep growth pattern in a 5-year period. From fiscal year 1985 to fiscal year 1990, defense budget authority has declined by 14 percent in real terms; that is, after inflation.

I have said many times that in my view, the defense buildup of the last 10 years would have been more effective and efficient and the restructuring of our defense program that we face over the next 5 years would be much less painful if we had pursued a modest, stable pattern of growth in the defense budget instead of a roller coaster of large real increases followed by years of steady real decreases. That is part of history now, however.

The fiscal year 1986 5-year defense plan called for spending $480 billion in 1990. Again, I want to repeat that. The fiscal year 1986 5-year defense plan called for spending $480 billion in 1990. The Department of Defense actually got $292 billion in fiscal year 1990, or 65 percent less than was planned 5 years ago.

These kinds of distortions between planning and actuality create serious problems in planning and managing defense resources and programs. We have to try to do better in the future.

The budget details indicate that last year's 5-year defense plan has been reduced by $167 billion in order to meet the 5-year spending targets of this year's budget. Only about half of this $167 billion in savings has been identified by the Defense Department so far. We look forward to hearing this morning how the remaining $85 to $90 billion in reduction necessary to meet the new 5-year spending targets will be achieved and what impact these remaining reductions will have on our overall military posture.

I know the Secretary is revising somewhat the 5-year plan, so we may not get all of those details today. As we decide these things in the coming months, however, we hope we will have them.

Last year this committee supported the tough decisions that Secretary Cheney made in putting his budget amendment together. This year the Secretary has obviously had to make more difficult decisions. In my view, the Congress will be much more likely to go

along with these decisions, Mr. Secretary, if you and General Powell and the other leaders in the Department of Defense can give us over the next few weeks a clear vision of where our defense policies and programs are going over the next 5 years.

One does not need closed door briefings by the intelligence community to know that real changes in the Soviet threat have taken place. We have all seen these changes unfold on our television screens every night. Our challenge is to determine if this budget reflects the realities and the full dimension of the changes in the threat, the political situation in Europe and the fiscal situation here at home.

In the area of military personnel, I strongly endorse the decision by Secretary Cheney and General Powell to maintain as best we can the current quality of our military forces. The well being of our military members and their families has always been a top priority of this committee. The professionalism and ability of our men and women in uniform has never been higher than it is today. We must continue to do everything we can to attract and retain these people in the military services.

I think it is also important for all of us to look back a bit in history. We have had very large decreases in military personnel several different times since World War II: after World War II; after Vietnam; and after Korea. We have not, however, done that in the volunteer force environment. That is the distinction. Back in those days, the people who were getting out largely wanted to get out. In this day and time, we have people who have planned to make the military a career, so that is a distinction which we are all going to have to keep in mind. It is important.

Mr. Secretary, we had a very productive and cooperative relationship with you last year, and an awful lot of credit is due to you for that. We look forward to working with you and General Powell again this year.

One final comment. I applaud the President for his new proposal which he unveiled last night on conventional arms control. I think it makes the conventional arms control proposal that we now have tabled in Vienna much more relevant both to the changes in Eastern Europe and to the budget reality here at home.

Thank you.

Senator Warner.

Senator WARNER. Thank you, Mr. Chairman.

Mr. Secretary and General Powell, I join with the chairman in commending the President's bold move last night. I will have further comments on that as to whether it paves the way for the peace dividend.

General Powell, I join with the chairman in paying recognition to the men and women of the Armed Forces, not only the current generation but the preceding generations whose dedication and commitment made possible in large measure these dramatic changes which we have witnessed in Eastern Europe.

I would like to turn for a moment to this question of the changing threat, Mr. Secretary. Some now are urging that the changing threat should result in the development of a wholly new national strategy. Others are saying the changing threat should result in greater defense budget cuts, even slashing.

Show me the person, Mr. Secretary or General Powell, who 6 months ago could have sat at that table and predicted in any accurate measure the events which have unfolded in the ensuing 6 months. Show me, therefore, the person who could sit at this table today and predict with any great certainty where these events will lead in another 6 months or a year.

As a matter of fact, this committee has just concluded 4 or 5 days of hearings, and all of the witnesses by and large have been very cautious as they look into the future. This puts a particularly difficult challenge to you, Mr. Secretary, in devising the strategy and the reconfiguration of the Armed Forces of this country.

It seems to me when the European situation stabilizes, when negotiations have produced the verifiable arms control treaties, and when they have been ratified by the Senate of the United States, Mr. Secretary, then is the time to possibly make some major changes in that strategy.

I, for one, believe it is prudent to attempt now to decide upon a transitional strategy, and I think you have done just that in your budget.

I recognize the complexities facing the President and you, Mr. Secretary, and you, General Powell, in beginning the review for the strategy for this year and the course for the 5-year program. As you said, Mr. Secretary, this is the "worst possible time to contemplate changes in defense strategy. What we need to do is to analyze what is right with that strategy and make such adjustments as are necessary." That is a good course.

This budget represents that course. It reflects the changing political and military threat in Europe. It is consistent with the continuing arms control process in Vienna and Geneva, but at the same time it maintains the flexibility—and I underline "flexibility"—to respond to a possible reversal or a slowdown of these favorable events in Europe.

The budget rests squarely, in my judgment, on four pillars. First, the continuing threat. The Soviet Union, even after the current projections of the effects of current arms control proposals, both strategic and conventional, will still have very formidable forces, conventional and particularly strategic. We have to maintain our Armed Forces accordingly.

Second is the strategic problem. There is not one diminution that we know of subject to the outcome of START in their strategic modernization program.

Third, we have global commitments, seven collective defense treaties involving 42 separate nations. The credibility of our country stands behind those treaties, and we have to put the commensurate force structure there to make them enforceable.

Last, the time-honored doctrine that our negotiators can only succeed at the negotiating table if the President and Congress maintain a credible defense program; otherwise, the incentive for negotiations could well be removed.

I support, therefore, the directions in which you have taken this budget. The restructuring is reflected in your priorities, Mr. Secretary: first, the continued modernization of the strategic deterrence; and second, the SDI program, which is essential for two reasons, the continuing modernization of the Soviet program and, perhaps

even more importantly, the proliferation of ballistic missiles, particularly in the Middle East.

Mobility, both sea and air: As we bring back our forward deployed forces in some areas of the world, we have to maintain sufficient mobility to return them should the contingency arise.

Mr. Secretary, one note, and I say this not in criticism but, again, in suggestion. We have talked privately. I think both you and the Chairman have the opportunity to go in and examine the roles and the missions of the Armed Forces of the United States. Given the likely 2 percent bottom-line decline of budgets, we cannot accept one bit of unnecessary duplication in the Armed Forces of the United States in terms of roles and missions.

This is the opportunity I think many of your predecessors have wanted but could not face because of the politics of the building. I think you now have that opportunity, and I think you have a very willing partner in General Powell, who will back you up in the tough decisions to remove that redundancy which we all know is present in some measure.

Last night the President's announcement may well have paved the way for a peace dividend, but I think we have to address that term in a very responsible way. For that term is proliferating across this country and across the world, and raising the hopes and aspirations of our people and other people throughout the world that this peace dividend will come about quickly.

I think you are on the right course, Mr. Secretary, and I wish both you and General Powell luck.

I would like to insert for the record the opening statement of Senator Pete Wilson.

Thank you.

[The prepared statement of Senator Pete Wilson follows:]

PREPARED STATEMENT OF SENATOR PETE WILSON

Thank you, Mr. Chairman. I would like to join you in welcoming Secretary Cheney to this morning's hearing and express my own appreciation to him for his willingness to discuss not only his Department's budget request for the upcoming fiscal year but also his longer-term vision of America's changing defense strategy.

I applaud the general combination of prudence and anticipation reflected in the Department's fiscal year 1991 budget submission. As you implied during your press conference 3 days ago, Mr. Secretary, uncertainty and confusion have accompanied the equally undeniable trends of change that continue to unfold within the Warsaw Pact nations. Over the next several years, then, we must adjust our defense posture in a surgical manner under the assumption that most military threats to American interests overseas will evolve or remain intact rather than instantly disappear.

Upon first examination, it looks as though many of the budget proposals before us today embrace the idea that certain forces and programs must bear disproportionate funding cuts relative to others as a result of the changing international environment. I want to encourage you to intensify the Department's emphasis on assessing both new and diminishing challenges to American military forces around the world as the point of departure for making budget decisions. This committee and the rest of our colleagues in Congress, I believe, will be able to exercise their authorization, appropriations, and oversight responsibilities more effectively if they possess a flexible yet coherent long-term plan that matches our force structure needs with our global security obligations.

In your Annual Report to the President and Congress, for example, you quite properly conclude that the non-NATO missions of the U.S. military in future years will require "mobile, highly ready, well-equipped forces and solid power-projection capabilities." You also report the welcome news that the Department has prepared a request of $1.2 billion dollars to expand its airborne and maritime drug interdiction efforts particularly within the western hemisphere.

It seems, therefore, that one of the major new issues before Congress this decade will be the consideration of what facilities, programs, and spending authority the Defense Department needs to deploy and operate higher levels of forces from within the United States. I would expect this factor to play a prominent role in the Department's process of evaluating what domestic military bases have actually become excess to its new and existing mission requirements.

Indeed, we cannot lose sight of the need to tailor our defense strategy to both the promising and the unpredictable.

While we now see signs of having to adjust our strategy in response to the diminishing likelihood of a short-warning, Warsaw Pact offensive campaign across Central Europe, we must also continue our investment in the integrity of the NATO alliance and the capability to swiftly project American forces to this theatre during a time of unanticipated crisis.

While we must contemplate the prospect of Soviet conventional troop withdrawals from the countries of eastern Europe by the turn of the century, we must also soberly confront the fact that Moscow continues to modernize and expand its strategic nuclear forces.

And while we welcome the prospect of reducing forward-deployed, heavily-armed units in foreign territories, we must also devote more resources to security problems such as illegal narcotics that threaten us closer to home and Third World instabilities that may require America to respond with its air or sea power.

I look forward, Mr. Secretary, to beginning this exploration with you on how the definition of the phrase "U.S. national security" will and will not change in the coming years.

Chairman NUNN. Thank you very much, Senator Warner.

I would like to make this announcement at the outset. At the request of Secretary Cheney, who has a meeting right after 2 p.m., we will go straight through until 2 p.m. Depending on where we are in the process, we will take at least a 2-hour break and come back, if need be, to finish, starting at 4 p.m. and going as long as necessary so that the members will be able to get their questions in.

Mr. Secretary, is that in accordance with your understanding and satisfaction?

Secretary CHENEY. That will be fine, Mr. Chairman.

Chairman NUNN. I would like to get started with the Secretary's testimony, and we will give each member another 2 minutes to make any remarks in the form of an opening statement.

Mr. Secretary, we are pleased to have you, and we are delighted to have you, General Powell. We look forward to your testimony.

STATEMENT OF HON. RICHARD B. CHENEY, SECRETARY OF DEFENSE

Secretary CHENEY. Thank you very much, Mr. Chairman. It is a pleasure to be back before the Senate Armed Services Committee again.

As the chairman mentioned in his opening remarks, I think one of the most fruitful relationships I have been involved with during my professional career has been the working relationship that existed between the Department and this committee over the course of the last year.

We dealt with some very difficult issues in 1989. I think we shaped a good defense program for the country, and I look forward to continued cooperative efforts with the committee in the year ahead.

If I might, Mr. Chairman, I would like to spend a few minutes talking in fairly broad and general terms about recent developments, and make a few comments on strategy. Then I would turn

to my compatriot, General Powell, the Chairman of the Joint Chiefs, for some remarks from his perspective, and finally, I would like to close our opening presentation with an overview for the committee of the broad outlines of the President's budget that we are submitting for fiscal year 1991.

Chairman NUNN. I would hope that General Powell could give us at least a touch of net assessment this morning. We may get into more details later on, but that is a statutory responsibility now that the Chairman has, and I know he has been working on that. As the world changes, he has been changing his net assessment. I am sure it is up to date, day by day. [Laughter.]

Chairman NUNN. Secretary Cheney.

Secretary CHENEY. Thank you, Mr. Chairman. Thinking back, when I appeared before this committee last spring to present the budget amendment, and what has transpired since then, the President, in his State of the Union message aptly captured that 1989 was the year of revolution; it may in fact turn out to have been one of those watershed years in history that separates everything that went before from everything that comes after.

Every single leader of the Warsaw Pact nations, except Mr. Gorbachev, of course, has been changed since last spring when I appeared before the committee. We have a non-Communist head of the government in Poland; a former dissident prisoner now President of Czechoslovakia. The Communist Party of Hungary has abolished itself. The German Democratic Republic has called elections just a few weeks hence. In Romania, the Communist regime has been toppled in an alliance between the people of Romania and the Romanian armed forces, and even Bulgaria is beginning to show signs of change.

If we look at that with regard to our military obligations and requirements in Europe, it clearly has great significance for what has been one of our significant concerns for the last 40 years, and that is the prospect of a Soviet-Warsaw Pact conventional military assault upon our allies in Western Europe, specifically upon our allies in the NATO alliance.

Over the course of the last few months, we have seen the beginning of unilateral troop reductions by those non-Soviet Warsaw Pact Nations. We have seen demands from Poland, Czechoslovakia and Hungary for Soviet force withdrawals, and even the beginning of negotiation between some of those countries with the Soviets. We have seen a significant increase in warning time, regardless of whose estimates you use with respect to warning time.

Clearly, any rational individual looking at the developments of the last few months would have to say that the military threat to NATO posed by the Warsaw Pact is fundamentally different than it has been for the last 40 years.

A couple of simple facts stand out: the East European forces have traditionally composed about 50 percent of the first echelon attack of the Warsaw Pact into NATO, and, of course, it is not very likely that those forces would be a significant factor in any potential Soviet military action today.

I think the Soviets would have to have enormous doubts, as the Chairman mentioned, about their own allies participating in any such attack, and obviously, I think a great concern for their rear

areas were they to try such an event on their own. General conclusion: the likelihood of a Warsaw Pact attack into NATO these days is fairly remote.

If we look down the road and contemplate what kind of Europe we will see 5 years hence, I think it is not unreasonable for us to begin planning for, subject to lots of contingencies, the possibility that the Soviets will be out of Eastern Europe, or virtually out of Eastern Europe, 5 years hence; that the governments of Eastern Europe will be democratically-elected non-Communist regimes. I think that is a very real possibility.

When we couple those kinds of prospective changes with the developments in the Soviet Union over the last few months, it seems to me we can indeed begin to contemplate changes in our own strategy. Let me focus just a minute on a couple of items that I think are crucial from the standpoint of Soviet developments.

Clearly, one of the most significant occurrences, if you will, in recent years has been the decision by the Soviets to allow self-determination for Eastern Europe. I am not sure they could have done anything to stop it, but clearly President Gorbachev's decision not to intervene militarily the way his predecessors did in Czechoslovakia in 1968, or Hungary in 1956, constitutes a significant change in Soviet reaction to the drive on the part of the East European peoples for freedom and democracy.

The Soviets clearly are focused on massive internal problems: an economy that is by all accounts a disaster, and significant problems with respect to their nationalities, whereas, a couple of years ago we were worried about Soviet troops in Afghanistan. Those troops have been withdrawn and redeployed to Azerbaijan.

There are clear signs that Soviet military spending has begun to decline. There are reports of continuing problems within the Soviet military itself, in terms of morale, in terms of nationalities conflicts, questions about the role of the Soviet military in Soviet society, and of course the Soviets have indeed been implementing the unilateral reductions that President Gorbachev announced in December 1988.

Having said all of that, I think it is important for us, as we contemplate the future and what kind of strategy and military force we want to pursue in the future, to remember certain cautions, if you will, as mentioned by Senator Warner.

The Soviet Union remains the only nation on Earth that is capable of destroying the United States. As we sit here today, there are massive nuclear forces in the Soviet Union targeted against the United States and its allies.

The Soviets continue a very robust strategic modernization program. By the mid to late 1990s there is every reason to expect that most of their strategic force will have been modernized, and that it will be highly capable. START-constrained, we expect, but nonetheless a very modern, very capable nuclear force.

With respect to conventional forces, we clearly are beginning to see significant changes, but again, I would remind everybody, the Soviets have a very long way to go to reach our level of capability with respect to conventional forces. Even after they withdraw from Eastern Europe, assuming that comes to pass, they still will be far closer to Europe than will any U.S. forces stationed in the conti-

nental United States. Even with the Berlin Wall down, there are over 350,000 Soviet troops in the German Democratic Republic today.

The Soviets continue to excel at producing large quantities of high-quality military equipment. We simply have to look at their tank production capabilities and track record in recent years to remind ourselves that they have the capacity, in very short order, to quickly ramp up production levels to historic highs.

While we have been producing between 600 and 950 tanks a year in recent years, they have been producing 3,400 tanks per year, and while they clearly have cut their tank production rate this year, they will still produce almost three times as many as we will.

They continue to produce high-quality aircraft. Their submarine program is most impressive and, by any standard, the Soviet capacity to devote significant resources to military purposes remains impressive.

If we look back over the course of the last several years, the official estimate has been that the Soviets have spent some 15 to 17 percent of their GNP on defense. There are those—and I am among them—who believe that the percentage was actually much higher than that and the Soviet economy was smaller than most thought. So they have a record of major military efforts in producing vast amounts of armaments in spite of inordinate economic difficulties.

Finally, I think a cautionary note is due, Mr. Chairman, with respect to the question of technology. One of the key strategic assets the United States has enjoyed now all of these years has been our ability to do a better job of applying modern technology to military requirements than the Soviets have been able to do.

I am concerned that if we look down the road 5 or 10 years, it would not be unreasonable to expect that that gap will begin to narrow. It will narrow in part because the same trends we welcome in the Soviet Union, in terms of perestroika and glasnost and an opening to the West, will serve at the same time to make it easier for the Soviets to acquire military technology that has relevance to their strategic requirements.

We begin to see an increasing interest on the part of many of our allies in breaking down the COCOM system which limits the transfer of technology to the Soviets. So, I think a realistic expectation, or forecast, if you will, from the standpoint of the Defense Department, is that we have to be concerned that while the Soviets are reducing the size of their military forces, we will nonetheless be faced with a highly capable force in the future that has benefited from the enormous increase in access to Western technology.

Another cautionary note that I think needs to be mentioned—and I do not mean to dwell on it this morning, but I think it is vital in terms of our thinking about where we want to head with respect to our own national security policy—of course has to do with developments inside the Soviet Union itself. Political developments, if you will.

Much of the positive change we have seen within the Soviet Union clearly has been generated by President Gorbachev and his reforms. In other cases, I think it is clear that he has tolerated

major changes, i.e., in Eastern Europe, in ways that his predecessors would never have contemplated.

But, there is enormous uncertainty about what fate has in store for the Soviet political leadership. I would refer everybody to the morning newspapers, the statement by President Gorbachev knocking down the rumor that has been rampant through Washington and around the world these last few days that he was about to step down as the Party leader of the Communist Party of the Soviet Union.

Current, favorable trends in U.S.-Soviet relations, it seems to me, could be halted if there were to be a change at the top in the Soviet Union. Some of the revolution of 1989 may well be irreversible. I am inclined to think some of it is. But we must guard against making unwise, unjustified changes in our own security arrangements that are based solely on the stated intentions of a regime that may or may not surmount their current difficulties.

What does all this mean for administration policy? Well, I think foremost, from a national security standpoint, it is clear that a cornerstone of our approach these days to the Soviet Union is to aggressively pursue arms control agreements across a broad spectrum of relationships that we have developed with the Soviets.

The President, in May of last year, advanced bold and innovative proposals with respect to conventional force reductions in Europe. He broadened the number of categories of controlled items and tabled for the first time a proposed ceiling on U.S.-Soviet manpower in Europe.

Last night, we all were witnesses when the President offered a new Presidential initiative to cut even deeper in U.S. and Soviet forces stationed in Central and Eastern Europe. We have moved as actively as we can with respect to a START agreement to try to accelerate those negotiations and hopefully complete major items in time for the expected summit this summer. When General Powell and I leave here this afternoon, as the Chairman mentioned earlier, it will be to attend a meeting at the White House where we will focus on arms control issues relative to Secretary Baker's visit to Moscow next week.

There are still a number of uncertainties, though, related to arms control. While we are optimistic that we can make significant progress in 1990 on these issues, there are still questions we have to resolve before we can make final decisions about our own forces, in light of the framework we hope to establish for arms control.

There is still uncertainty about ultimate troop levels and equipment levels. We have not finalized the work within the NATO alliance as to how we will allocate the cuts within the alliance. There are significant questions, as yet unanswered, about what NATO strategy might be like in a post-CFE environment. Once we take down these significant armaments we will need to work with our allies to consider revisions in our military strategy in Europe. That has to be done within the context of the alliance, not unilaterally by the United States.

With respect to START efforts, we have not yet made decisions on what the post-START force mix might look like. That is, the number of ballistic missile submarines versus the number of ICBMs and bombers which we would like to see in that force.

We have on-going negotiations with the Soviets over important issues such as nondeployed missiles, sea-launched cruise missiles, air-launched cruise missiles, et cetera. We can begin to think about where we go long-term, given these developments. I believe caution is still in order until, as Senator Warner said, we have these agreements signed, sealed and delivered.

Mr. Chairman, if I might, I would like to make just a couple of comments about strategy before I call on my colleague. Many have suggested that perhaps now is the time for a radical new strategy, if you will; that somehow, given the changes that have occurred in the world it is appropriate for the United States to fundamentally alter the strategy that we have pursued so successfully now for the last 40 years.

I would be the first to recognize that in fact, it is important for us to revisit many of the basic assumptions which have guided our national security policy over the last several years. It needs to be done very carefully, and while some changes are in order—as the President highlighted last night in his new proposals on conventional force reduction—it is clearly important we keep in mind the basic, fundamental, underlying requirements that the United States has from a strategic standpoint. The basic elements of U.S. strategy should be enduring. We do not believe radical departures are required or justified at this point.

The key elements, of course, of our strategy for the last 40 years, have involved deploying sufficient nuclear forces to deter an attack against the United States; relying upon a system of alliances worldwide to enhance our security and that of our key friends; relying upon the concept of forward-deployed forces that we wanted to have overseas ready to assist in the event they had to go to war, and, also because they have generated significant influence for the United States in shaping and directing developments around the world.

We wanted to pursue the doctrine of flexible response: the ability to respond with conventional or nuclear forces should that be required. We have always wanted, and continue to want to emphasize, the importance of maritime superiority and control of the oceans, and, of course, we have required and maintained the forces to be able to deal with contingencies in various parts of the world.

I think that strategy has contributed directly to the very positive developments we see today in Eastern Europe and in the Soviet Union. To some extent the so-called revolution of 1989 is due to the successful strategy pursued by the United States and our allies throughout the post-war period.

Having established a regime that has provided security for the United States and our key allies, we have been able to allow our market economies to develop and to take advantage of the enormous creativity of mankind. Also, to develop political systems that take full advantage of our basic beliefs and values in freedom, democracy, and individual liberty. The success of those developments, and the growth of Western society, contrasted with the failure of communism, is one of the dynamics that have driven the change we now see in Eastern Europe and within the Soviet Union.

Given the apparent collapse of the Soviet position in Eastern Europe, domestic problems inside the Soviet Union that I referred

to earlier, improving U.S.-Soviet relations, we can indeed begin to contemplate changes in our own force posture and deployments. I will recommend some this morning.

But, I think the basic elements of our strategy continue to be valid. Regardless of what kind of scenario we portray for the future, we are going to want to maintain adequate nuclear forces to provide for deterrence. We are going to want to rely upon a system of alliances around the world—in Japan, Korea, NATO.

We are going to want to rely upon the concept of forward deployments, although perhaps at lower levels. We are going to want to maintain maritime superiority, and we are going to need the forces to deal with contingencies such as the Persian Gulf and Panama.

With that, Mr. Chairman, I would like to turn the floor over to my colleague, General Powell, Chairman of the Joint Chiefs.

[The prepared statement of Mr. Cheney follows:]

[The January 1990 Annual Report to the President and the Congress from Dick Cheney, Secretary of Defense follows:]

**STATEMENT OF SECRETARY OF DEFENSE DICK CHENEY
IN CONNECTION WITH THE FY 1991 BUDGET
FOR THE DEPARTMENT OF DEFENSE**

Mr. Chairman, Members of the Committee:

It is a pleasure for me to come before this Committee to provide the details of the Administration's defense budget for FY 1991. These congressional deliberations come amidst an historic transformation of the global security environment. Our task is to decide how best to preserve America's security, while taking account of and supporting that transformation.

THE CHANGING GLOBAL SECURITY ENVIRONMENT

Changes affecting U.S. security are occurring throughout the world, but most profoundly in the Soviet Union and Eastern Europe. For four decades, the primary concern of NATO has been to deter a potential Soviet-led invasion of Western Europe. Now, instead of tanks and troops moving from East to West, the ideas and institutions of freedom are moving from West to East.

As we view what are clearly positive developments, we have a responsibility to distinguish what is done from what is only promised. The Soviet Union remains an extremely formidable military power. Recent events both in Eastern Europe and the Soviet Union itself have decreased the risk of the Soviets launching a premeditated attack on Western Europe. But the volatility and unpredictability of the situation there has, in many ways, increased the chance of an inadvertent conflict. We cannot know for certain the future course of the current communist upheaval. As President Gorbachev himself has noted, "There are no guarantees that the positive processes [we] have begun are irreversible."

Facing the uncertainty implied by this ongoing transition, America's best stance is steadiness in its defense policies and posture in the short term. We must make our military adjustments with an eye toward genuine reductions in risks, not in anticipation of how we hope global events will evolve.

EVOLVING THREATS TO U.S. NATIONAL SECURITY

While the threat of deliberate aggression in Europe has diminished, the dangers elsewhere are increasing. In the coming decade, U.S. forces must be prepared to cope with the following challenges:

- The Soviet Union. While we expect Soviet forces to shrink, they have diminished only marginally so far, significant military capabilities remain. The Soviet nuclear arsenal is undergoing considerable modernization. Moreover, the Soviets still are working to enhance the overall effectiveness of all their forces. We should not expect the Soviet Union to neglect significantly the only national instrument that makes it a superpower: its substantial nuclear and conventional forces. And while events in Eastern Europe are encouraging, they have not consistently been matched by more promising Soviet actions in Asia or the Third World.

Hard realities tell us that we cannot assume that Moscow's current military restraint will continue. Because of its centralized authority, a future Kremlin could reverse its military course quickly and decisively. What would most enable the world's

democracies to reduce their concern about the Soviet Union's future intentions would be its establishment of durable institutions based on freedom and respect for human rights.

• Arms proliferation to potentially hostile states. The diffusion of high technology weapons to potentially hostile nations has greatly complicated America's security picture. At least a half dozen nations are working to acquire nuclear capabilities, and a disturbing number of Third World countries are acquiring sophisticated military arsenals, including long-range missiles and chemical and biological weapons. Moreover, certain of these nations are hostile to U.S. interests and have indicated that they will attempt to assert domination over neighboring areas. As in the case of Iran during its war with Iraq, these states may be willing to expand conflicts in ways destructive of the interests of the United States and its allies. America may find itself compelled to act, as it did in the Persian Gulf, to forestall such efforts when they threaten our national interests, including the safety of our citizens.

• Anti-American regimes. As the case of Manuel Noriega proves, various Third World states may--for a variety of reasons--decide to behave in ways that force a military confrontation with the United States, despite the odds against them. Moreover, many Third World states have acquired the ability to use force far more effectively, and over a longer period of time, than could Noriega.

• Non-state threats. U.S. armed forces are called upon today--and will be in the future--to confront organizations that have proven themselves deeply hostile to American interests and values. These include drug traffickers, anti-democratic insurgents, and terrorist groups.

ADAPTING U.S. DEFENSE STRATEGY TO GLOBAL CHANGES

America's national security strategy should continue to opt for global involvement over isolation. America's enduring global interests require a significant ability to counter threats affecting those interests. We must maintain a forward presence in cooperation with our allies and friends in key areas such as Europe, the Mediterranean, Asia, and the Pacific. Regardless of whether Soviet military power diminishes, many U.S. allies and interests will continue to face major threats, as in South Korea and the Persian Gulf region.

Additionally, America's global military posture and leadership promotes an international environment in which free peoples and those seeking freedom can prosper. It helps allies and friendly nations follow a course favorable to shaping a better world; supports peaceful change and resolution of international differences; fosters the free flow of goods, people, and ideas; and promotes freedom, human rights, and nonaggressive national behavior. Many nations appreciate the contribution to peaceful progress made by a visible American military presence in their part of the world. Not only does our presence deter Soviet influence, it also can dampen regional arms competition and discourage local powers from seeking to dominate their neighbors.

As we work toward negotiated arms reductions and a better world for all peoples, we should remember that the military strength of America and its allies made possible much of the positive movement we are now seeing, and it will be critical to continued progress. The promising developments in Eastern Europe and the Soviet Union--ultimately brought about by the courage and

sacrifices of people yearning to be free--were fostered by the collective resolve of free nations. We contained and opposed communism so that its own political, economic, and moral bankruptcy would be felt at home and would thereby undermine its ruling regimes. Military strength will remain the ultimate safeguard for democratic nations against armed regimes hostile to our interests and values.

America should continue to anchor its strategy to the still-valid doctrines of deterrence, flexible response, forward defense, security alliances, and prudent arms reductions. Even the extraordinary events of 1989 do not mean that America should abandon this strategic foundation. Rather, our task is to analyze our strategy and forces continuously, and adjust them as necessary to meet changing threats and conditions.

The central tenet of America's global strategy is and should remain: to deter aggression against our global interests by maintaining--with our allies--a credible array of military responses, aimed at making the cost of such aggression exceed any possible gains. The great question then is: how many and what kind of forces are needed to do that? With growing uncertainty about the location and severity of our future threats, that question becomes harder to answer. Also complicating our decisions is the fact that the forces we may need in ten years have to be planned and programmed now.

LINKING STRATEGY TO DEFENSE BUDGET DECISIONS

The changing global conditions highlighted above have extensively affected the Department's plans and programs, and they will continue to do so. The most compelling indicator of the extent to which we are taking account of promising global developments is our revised FY 1991-95 Topline. Just a year ago, the President's five-year plan included modest real growth of 1 to 2 percent each year. Now, based on a realistic assessment of America's security threats, I believe our nation can begin to scale back defense funding somewhat without unacceptable risk to its security, if current U.S.-Soviet negotiations bear fruit as expected. The prudent and efficient pace I recommend is roughly a 2 percent per annum real decline in defense budget authority for FY 1991 through FY 1995.
(Chart 1)

This course will involve a substantial reduction in planned defense resources and continues a steady decline in defense funding that began with FY 1986. By FY 1995, the result will be a cumulative 10-year real decline of 22 percent, and DoD outlays as a percentage of our GNP and of total federal outlays will be the lowest in 50 years. As a way of comparison, our actual DoD budgets--including the request for FY 1991--will be $208 billion less than the amounts that would have been required to provide zero real growth for FY 1986 through FY 1991. When the projections through FY 1995 are included, our actual budgets will end up $515 billion below what the zero-real-growth level would have been for FY 1986-95. **(Charts 2-5)**

The assumptions allowing this significant reduction in defense resources--and the accompanying reshaping of U.S. forces--are these:

CHART # 1

FY 1991 DoD BUDGET
BUDGET AUTHORITY
($ in Billions)

	1990	1991	1992	1993	1994	Cum 90-94
April 1989 Plan * (0,1,1,2,2% Real Growth)	295.6	317.5	332.4	351.0	369.4	1,665.9
Reduction	-4.2	-22.4	-32.4	-46.6	-61.4	-167.0
January 1990 Plan (-2% Real Growth)	291.4	295.1	300.0	304.4	308.0	1,498.9

* Adjusted for final economic assumptions

CHART # 2

DOD BUDGET AUTHORITY
(Dollars in Billions)

FISCAL YEAR	ACTUAL /PLANNED		REAL GROWTH	
	CURRENT $	FY 1985 $	ANNUAL	CUMULATIVE
1985	287	287	-	-
1986	281	274	-4.4%	-4.4%
1987	279	263	-3.8%	-8.1%
1988	284	258	-2.1%	-10.0%
1989	291	255	-1.3%	-11.2%
1990	291	247	-2.7%	-13.6%
1991	295	241	-2.6%	-15.9%
1992	300	236	-2.0%	-17.6%
1993	304	232	-2.0%	-19.2%
1994	308	227	-2.0%	-20.8%
1995	312	223	-2.0%	-22.4%

CHART # 3

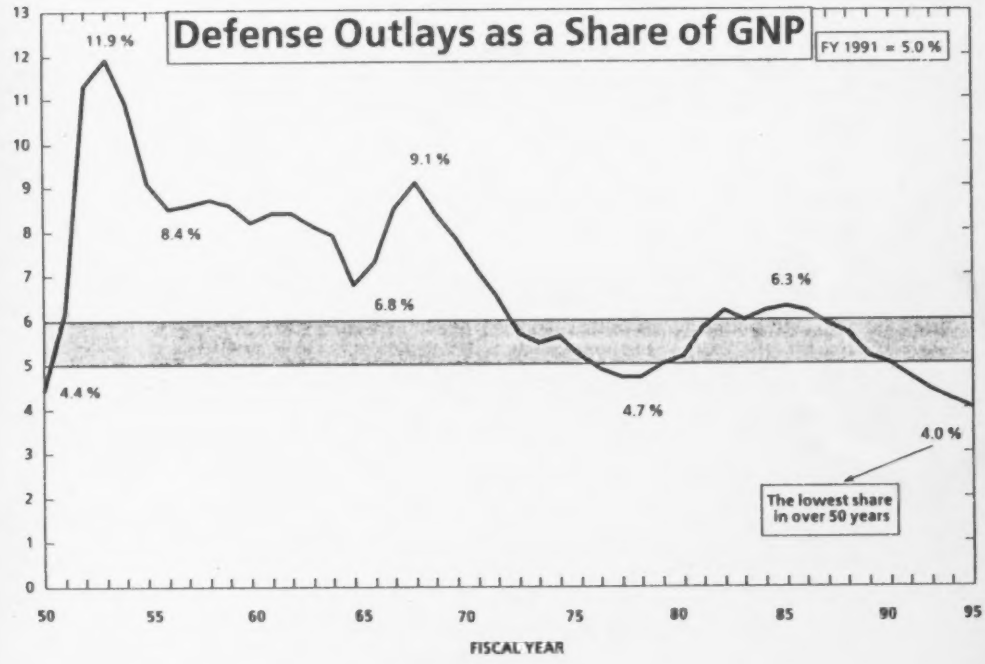


CHART # 4

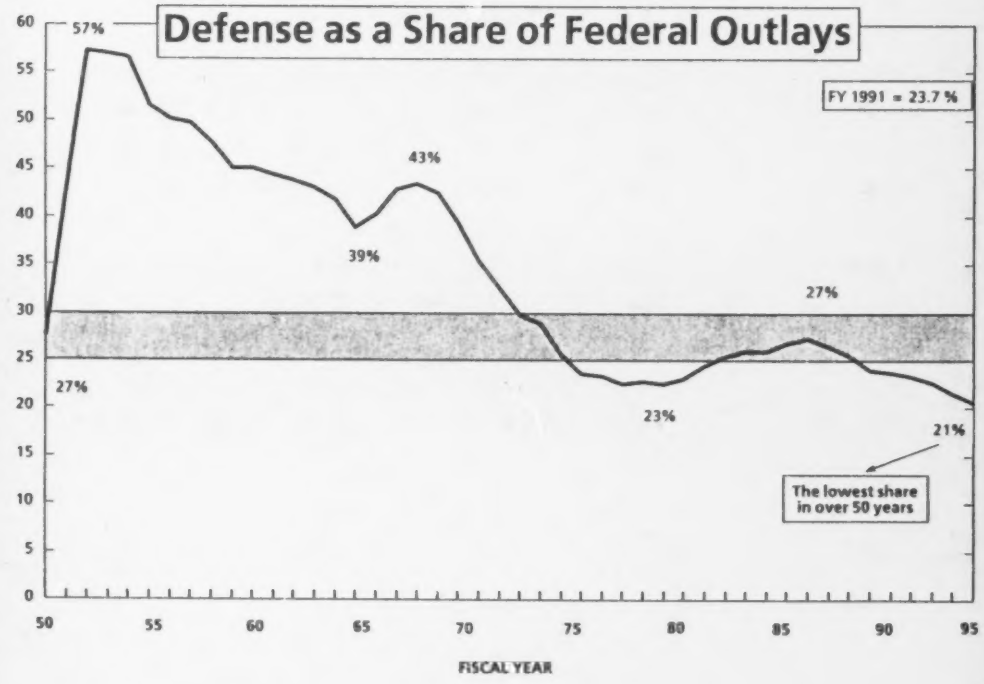


CHART # 5

DOD BUDGET AUTHORITY

(Dollars in Billions)

FISCAL YEAR	0 % REAL GROWTH	ACTUAL / PLANNED	ANNUAL DELTA	CUM DELTA
1985	287	287	0	0
1986	295	281	- 13	- 13
1987	304	279	- 25	- 38
1988	315	284	- 32	- 69
1989	328	291	- 37	-106
1990	337	291	- 46	-152
1991	351	295	- 56	-208
			FY 85-91 Total = -208	
PROJECTION				
1992	364	300	- 64	-272
1993	377	304	- 72	-344
1994	389	308	- 81	-425
1995	402	312	- 90	-515
		FY 92-95 Total = -307		
			FY 85-95 Total = -515	

- A continuation of the positive developments in Eastern Europe and the Soviet Union;
- Completion of satisfactory Strategic Arms Reduction Talks (START) and Conventional Armed Forces in Europe (CFE) agreements; and
- No unforeseen, extended commitments for U.S. forces.

As long as these conditions hold, the lower spending I am proposing can keep America's security risks acceptable. However, that requires that we adhere to a rational and coherent process for allocating our limited resources wisely. My Department is determined to do its part. DoD's senior civilian and military leaders have discussed extensively every major strategic issue affected by the extraordinary events of recent months. We are continuing to reassess our military programs within the context of our evolving defense needs.

BUDGET PRIORITIES

The budget priorities outlined in this section are reflected in my FY 1991 defense request, and they indicate how I believe we should proceed in adapting our current forces to changing global prospects. Taking account of promising security developments and declining budgets, we must preserve the high quality of our forces, even if that means major reductions in our manpower and active force structure. High quality derives mostly from our military people, but it also requires that our weapons and systems be technologically superior. To ensure such superiority, we must restrict access to critical Western technologies, emphasize military research and development, and terminate some older programs to fund more advanced systems.

Whatever systems we decide we need should be acquired as efficiently as possible. That means economical production rates, which may require the deferral or termination of some lower-priority programs. To guard against an unexpected resurgence of security threats, we also should give priority to those elements of our military posture that would be most difficult to restore, if required. For example, America's technological superiority and the high quality of our uniformed men and women would be very hard to restore, if they deteriorated.

Our budget decisions should reflect our confidence that negotiated force reductions are likely, that Soviet attack options will decrease, and that NATO's warning time for a major Soviet attack will increase. We and our Atlantic allies also should plan now to use this scaling back as an opportunity to effect a better allocation of military roles, responsibilities, and other security burdens within NATO.

Below is a further delineation of the specific budget priorities that shaped our FY 1991 defense request and are guiding our plans for FY 1992-97: **(Chart 6)**

- People. We must continue to recruit and retain high-quality military and civilian professionals--emphasizing their training, quality-of-life, and career satisfaction.
- Robust nuclear forces/strategic defenses. Even with sound START and CFE agreements, we will need to develop modern and survivable nuclear forces to ensure that our deterrent has the utmost credibility. We also must vigorously pursue the Strategic Defense Initiative (SDI) program, both because of the Soviet

CHART # 6

DEFENSE PRIORITIES

- PERSONNEL/QUALITY OF LIFE
- READINESS
- STRATEGIC MODERNIZATION
- MARITIME SUPERIORITY
- EFFICIENT PRODUCTION RATES
- MAINTAIN TECHNOLOGY BASE

ballistic missile threat and because of the spread of ballistic missile technologies to other countries. If anything, the new global environment makes SDI even more important. Moreover, at the lower force levels expected under START, the adverse consequences of Soviet cheating will increase. Strategic defenses can offer us some insurance against such cheating and also help discourage it.

• Versatile, ready, deployable, sustainable conventional forces. U.S. conventional forces must be able to respond quickly to diverse contingencies worldwide, and be sustained logistically once committed. Stateside, we need versatile, multi-purpose forces, and sufficient sealift and airlift to deploy them. Overseas, our forward-deployed forces should be as mobile and flexible as possible, so they can support our regional military needs, in addition to deterring aggression where they are based.

• Continued maritime superiority. The United States is a maritime nation, heavily dependent on overseas trade and resources. We therefore need sufficient naval power to ensure our access to critical sea lines of communication, especially in time of crisis or conflict. That also enables us to project adequate military power in areas of U.S. interest, with less reliance on foreign bases or overflight rights.

• Reserve forces and mobilization. Especially with our active forces shrinking, we must continue to improve our ability to mobilize the necessary national resources to meet all possible contingencies. To this end, we must support substantial Reserve forces--including essential logistics, infrastructure, and planning--and preserve a proficient, responsive defense industrial base.

• Special operations forces. The rising threat to U.S. interests of low-intensity conflict--ranging from terrorism to armed insurgencies--keeps our special operations forces especially important. Their unique contributions extend from nation-building and security assistance to participation in large scale conventional operations.

FY 1991 DEFENSE BUDGET REQUEST

The FY 1991 request for the Department of Defense is $295.1 billion in budget authority (2.6 percent below the FY 1990 level, adjusted for inflation) and $292.1 billion in outlays. That is $22.4 billion in budget authority below the President's April 1989 request, after adjusting for the Administration's updated inflation and pay raise assumptions. A reduction of this magnitude forced many difficult, though necessary, decisions throughout the Department. We have begun to reduce the size and the shape of our force structure, we have terminated those programs that are not necessary or that don't work, and we have deferred programs in order to fund others of higher priority. By taking this action, I believe that we have made a prudent downpayment on our response to the global changes taking place, while providing the necessary defense capabilities to ensure our security within existing fiscal constraints. (Chart 7)

Manpower

Active duty end strength by the end of FY 1991 will be 2,038,800, some 91,400 less than the 1989 level and roughly the same level as FY 1980. In fact, Army and Air Force levels will be the lowest since 1950. The ratification of a CFE treaty necessarily will dictate the level of forces in Europe. In anticipation of a favorable outcome of CFE negotiations, I am

CHART # 7

FY 1991 DoD BUDGET CHRONOLOGY
BUDGET AUTHORITY
($ in Billions)

APRIL 1989 REQUEST	311.0
REVISED INFLATION	+6.5
ADJUSTED APRIL 1989 BUDGET	317.5
REDUCTION TO MEET REVISED LEVEL	-22.4
JANUARY 1990 REQUEST	295.1

satisfied that the proposed FY 1991 force structure and manpower reductions will allow for an orderly drawdown of U.S. forces. (Chart 8)

Until the Total Force Study is completed, Selected Reserve end strength will be 1,151,600 in FY 1991, a modest reduction of 3,400 from FY 1990.

Although military pay raises have been modest for the last few years and have not kept pace with changes in private sector pay, the Administration remains committed to the principle of pay comparability and strives to maintain an overall compensation program that can compete with other employment alternatives. Therefore, to protect quality achievements in the force, the FY 1991 request, along with a 3.5 percent pay raise, provides for continued benefits, enlistment and reenlistment bonuses, special pay for critical skills, and continuation of current training levels.

Civilian end strength will be 1,095,741, more than 21,000 fewer people than in FY 1989. In order to achieve the civilian strength levels without a reduction-in-force, a civilian hiring freeze has been imposed.

Force Structure

Adjustments

To move toward a smaller force with acceptable risk, the Army plans to eliminate two active CONUS divisions in FY 1991. The Navy will retire two battleships and begin planning for the deactivation of one nuclear cruiser in FY 1992 and another FY 1994; retire and deactivate three SSN-594 class submarines over and above the three planned for deactivation in the April budget revision; and deactivate two SSN-637 class submarines. The Marine Corps will begin planning for the deactivation of 14 artillery batteries. The Air Force will deactivate 14 B-52 primary authorized aircraft in FY 1990 and will close the associated support activity in FY 1991. (Chart 9)

Revised Program

The FY 1991 budget supports balanced strategic forces that include land, air, sea, and space based systems, as well as air defense interceptors. Land-based missiles and strategic submarines will continue at 1990 levels, and the bomber force will decrease somewhat as older B-52's are phased out.

General purpose forces in FY 1991 comprise a 30 division land force including 16 active (about half of which have reserve roundout brigades) and 10 reserve divisions for the Army and 3 active divisions and 1 reserve division for the Marine Corps. Tactical air forces will include 24 active and 12 reserve air wings for the Air Force, 13 active and 2 reserve carrier air wings for the Navy, and 3 active and 1 reserve wings for the Marine Corps. Naval forces, including 14 deployable carriers, will total 546 battle force ships by the end of FY 1991.

Readiness

Adjustments

The FY 1991 depot maintenance programs were adjusted to reflect retaining backlogs at or near previously-stated levels, for extension of congressional reductions, and for execution and other

CHART # 8

FY 1991 DoD BUDGET
MANPOWER
(End Strength In Thousands)

	FY 1989	Delta	FY 1990	Delta	FY 1991	CUM DELTA 1989-1991
ACTIVE MILITARY						
ARMY	770	-26	744	-17	728	-42
NAVY	593	-2	591	-6	585	-8
MARINE CORPS	197	-	197	-	197	-
AIR FORCE	571	-26	545	-15	530	-41
TOTAL ACTIVE	2,130	-54	2,076	-38	2,039	-91
SELECTED RESERVES	1,171	-16	1,155	-3	1,152	-19
CIVILIANS	1,117	-16	1,101	-5	1,096	-21

CHART # 9

FORCE STRUCTURE CHANGES IN THE FY 1991 BUDGET
(Dollars in Millions)

	FY 1991	FY 1992-1994
Deactivate Two Army Divisions	-1,227	-4,940
Retire Two Battleships	-75	-534
Retire Two Nuclear Cruisers	+9	+99
Deactivate 8 SSNs	-232	-105
Marine Corps Artillery Batteries	-5	-44
Deactivate 14 B-52s	-71	-246
Minuteman II	-128	TBD
WC-130 Weather Reconnaissance	+5	-
TOTAL	**-1,724**	**-5,770**

program-related impacts. The FY 1991 ship maintenance program was reduced because overhaul of the USS ENTERPRISE was funded by the Congress in FY 1990. The Navy also cancelled two SSN-637 class submarine overhauls. Additional savings resulted from more favorable foreign currency exchange rates and adjustments to minor programs due to program execution problems, contract savings, and the impact of congressional action.

Revised Program

The FY 1991 budget supports the effective readiness of our restructured forces. Training operations are continued at the FY 1990 budgeted level. This includes Army ground Operating Tempo (OPTEMPO) at 800 tank miles annually and an air OPTEMPO of 14.5 hours per month. Navy Primary Mission Readiness for tactical air operations continues at a level of 87 percent and ship steaming days for the deployed and non-deployed fleets remain at 50.5 and 29 days per quarter. The Air Force continues to support 19.5 flight hours per month for its tactical air pilots.

In addition, increases in real property maintenance funding will assist materially in arresting the recent rapid growth in the backlog of facilities maintenance and repair. CHAMPUS medical requirements are fully funded and funding for environmental programs is increased to accelerate meeting statutory requirements and to protect the public health.

DoD Counternarcotics Program

The FY 1991 DoD request includes $1.2 billion to fund DoD's aggressive new approaches in the fight against illegal drugs under the President's National Drug Control Strategy and my Counternarcotics Guidance. The Department will continue its demand reduction program for military personnel, which has become a model for other programs. In addition, funds are requested to expand the National Guard assistance to counternarcotics efforts and expand efforts to detect and monitor airborne and maritime drug smugglers. We will also increase our counternarcotics support to law enforcement agencies.

Investment

Adjustments

Our modernization program seeks to avoid costly stretchouts, continue efficient rates of production, and promote the introduction of newer and more survivable weapons. We simply cannot afford to fund programs that do not meet performance requirements or are high cost and of relatively low priority. Needless continuation of these programs would disrupt the effective execution of our entire defense program and increase its cost to a level that cannot be sustained. As a result, we would have to buy weapons that we cannot afford at the expense of higher priority programs essential to the national defense.

Last year we recommended, and the Congress approved, termination of the V-22 Osprey production funding, the F-14D aircraft new production, the Army Helicopter Improvement Program (AHIP), the Phoenix missile, the F-15E aircraft, and the M-88A2 Improved Recovery Vehicle program. In addition, the Congress added funds to the FY 1990 appropriations to complete procurement of the Apache helicopter program, which we had planned to terminate in FY 1991.

The FY 1991 budget continues our philosophy to cut marginal programs or those nearing completion of production runs and recommends terminating 13 more programs, reducing funding requirements by $2.3 billion. M-1 tank production is terminated after the FY 1991 buy. The Detroit tank plant will be laid away in September 1991 after FY 1990 procurement is completed and the Lima tank plant will be laid away, absent foreign military sales purchases that may occur, in March 1993 at the end of the FY 1991 procurement. The Maverick missile program was terminated after the FY 1990 buy due to the limited utility of the program. Other programs were terminated due to schedule slippages, revised requirements or poor reliability and performance. Also, some programs were terminated because viable, less costly, alternatives satisfy mission requirements. For example, the Army will rely on the Air Defense Anti-Tank System (ADATS) and Pedestal Mounted Stinger for air defense, deferring procurement of the Non-Line-of Sight Missile program and terminating the Chaparral air defense missile. (Chart 10)

In addition to programs recommended for termination, we are proposing to transfer $1.4 billion from FY 1990 to finance the FY 1991 M-1 Abrams Tank program and partially fund the F-15E Aircraft Program. Some of these programs include: Fast Sealift Ships; 16 MH-60G helicopters; the 155mm artillery projectile; and the Minuteman II Guidance Computer Modifications. (Chart 11)

Several other programs are proposed for deferral without transfer. These include funding for an icebreaker from FY 1990, the V-22 advance procurement from FY 1989, and funding for the RDX explosive production facility from FY 1988 and FY 1989. (Chart 12)

We also made significant reductions to other major programs. FY 1991 procurement of the C-17 aircraft has been reduced from 10 to 6 because the FY 1990 congressional reduction rendered the planned FY 1991-93 production rate increases unexecutable. Funding for the Advanced Tactical Fighter, the next generation air superiority fighter for the Air Force and the Navy was reduced, reflecting the delay in initiating Full-Scale Development (FSD). Aircraft modification programs were reduced based on poor prior-year execution, procurement program restructuring to accommodate testing requirements or installation availabilities, and program pricing adjustments. Major deficiencies discovered during operational flight testing caused the Navy to reduce procurement of T-45 Training System aircraft from 24 to 12. Also, changes were made to the pricing and scheduling of the F-15E program and the Defense Support Program. Delays in program execution led to large reductions to communications and electronics programs to reflect more accurately executable program levels.

Revised Program

• Strategic Forces. The FY 1991 budget supports continued modernization of all components of our strategic nuclear triad. Funds are requested for the 18th TRIDENT submarine and 52 TRIDENT II missiles. To provide mobility for the Peacekeeper missile, the budget includes funding for special trains, to be garrisoned at various Air Force installations. In addition, development of the small intercontinental ballistic missile is continued. For the bomber leg of the Triad, 5 B-2 stealth bombers and 100 additional advanced cruise missiles are requested.

• Strategic Defense Initiative. The budget request contains $4.5 billion for the Strategic Defense Initiative (SDI) program, an increase of $.9 billion from FY 1990. Funding is included to

CHART # 10

PROGRAMS TERMINATED IN THE FY 1991 BUDGET

($ in Millions)

SYSTEM	FY 1991	FY 1991-1994
V-22 OSPREY	(-1,395) *	-6,468
F-14D Aircraft	(-469) *	-1,991
Army Helicopter Improvement Program (AHIP)	(-328) *	-1,400
PHOENIX Missile	(-333) *	-614
M-88A2 Improved Recovery Vehicle	(-90) *	-309
F-15E Aircraft	(+303) *	-3,317
Apache Helicopter	-682	-2,528
M-1 Tank	-1,086	-6,249
Maverick Missile	-367	-743
Air Force Airborne Self Protection Jammer	-264	-1,199
Combined Effects Munition	-142	-399
SEA LANCE ASW Standoff Weapon	-156	-975
Non-Line-of-Sight Missile	-131	-1,202
Advanced Short Range Air-to-Air Missile	-7	-46
Follow on to F-4G Wild Weasel	-12	-176
Air Base Survivability	-19	-130
Chaparral Missile	-26	-157
MK 19 Grenade Launcher	-20	-130
OV-1D Aircraft Mod Program	-37	-120
Autonomous Precision Guided Munition	-27	-114
TOTAL	**-2,976**	**-28,267**

* Terminated in FY 1990 Budget

CHART # 11

FY 1990 TRANSFERS *

($ in Millions)

SYSTEM	AMOUNT
OV-1D Aircraft Mods	-16
M483 155 mm Artillery Projectile	-90
HARM Missile	-69
Fast Sealift Ships	-592
MH-60G Helicopter	-151
F-4G Wild Weasel	-31
Combined Effects Munition	-70
Minuteman II Mods	-76
National Guard & Reserve Equipment	-41
Military Construction Projects	-91
Other Programs	-132
TOTAL	**-1,359**

* Funds transferred to finance FY 1991 final buy of M-1 Tank and F-15E Aircraft.

CHART # 12

PROGRAMS DEFERRED WITHOUT TRANSFER
($ in Millions)

SYSTEM	AMOUNT
RDX Facility from FY 1988	-238
RDX Facility from FY 1989	-72
V-22 Advanced Procurement from FY 1989	-200
Icebreaker from FY 1990	-325
TOTAL	**-835**

pursue aggressively the "brilliant pebbles" space-based interceptor program, as well as a variety of other programs such as ground-based radar, and space-based sensors. A reduced SDI program would undermine our efforts at the Defense and Space Talks in Geneva to get the Soviets to agree to a cooperative transition to a more stable and secure deterrent posture, including strategic defenses. (Chart 13)

• Conventional Forces. Funding for our conventional forces in the FY 1991 budget emphasizes production of key systems at efficient rates of production. Land force modernization is supported by continued production of 600 Bradley Fighting Vehicles. Added lift capability for our assault-support forces is provided by the purchase of 72 UH-60A Blackhawk helicopters. The air defense of our ground forces is enhanced by the continued purchase of the Air Defense-Heavy system, the short-range Stinger missile, and long-range Patriot missile. Funding for naval forces reflects the importance of maintaining maritime superiority by funding 14 new ships. Tactical air force modernization continues with the purchase of 282 new aircraft, including the F-15E and F-16 aircraft for the Air Force, the F/A-18 and E-2C for the Navy, and the AV-8B for the Marine Corps. The Navy will also remanufacture 12 older model F-14A and 3 EA-6B aircraft into the current, more capable, configurations. (Charts 14-16)

• Special Operations Forces. The FY 1991 budget supports the key role Special Operations Forces play in protecting our national security by providing flexible, well-equipped forces that can react quickly to crises ranging from terrorist incidents to major conflicts. Modifications continue to the C-130, MH-47, MH-60, and HH-53 aircraft and related support requirements are funded. The budget also includes funds for the acquisition of weapons, ammunition, and communications equipment for these forces.

• Mobility Programs. Improvements to mobility forces support the increased flexibility required by our restructured forces. Funds are requested for 6 C-17 transport aircraft. We are also continuing the procurement of material-handling equipment for the airlift fleet. Our sealift capabilities will continue to be enhanced by procurement of floating and elevated causeways, utility landing craft, cranes, and other container-handling equipment.

• Research and Development. In the coming decade, U.S. technological superiority will become more important and even more difficult to maintain. Considering the smaller size of our force and especially the global proliferation of advanced weaponry, U.S. forces must sustain their qualitative edge and take advantage of technological progress. The FY 1991 R&D request funds research and development for technology options related to future weapon systems and provides for Independent Research and Development funds to allow defense contractors to explore new technological approaches to defense problems.

Funding continues for the advanced technology work supporting concept evaluation and design for the Army's heavy force modernization program. Development will be completed on the Block II modification package for the M-1 Abrams tank. Funding is provided to continue development on the LHX scout helicopter, including the mission equipment package and the competitive award of the Full-Scale Development contract. Naval programs such as the SSN-21 Submarine Combat System, the A-12 Advanced Tactical Aircraft Program, and the ASW Fixed Distribution System are funded. Air Force programs such as JSTARS, Medium Launch Vehicles, and the Short Range Attack Missile continue. We are also providing funds for the Balanced Technology Initiative, semiconductor manufacturing

CHART # 13

FY 1991 STRATEGIC FORCES

SYSTEM	QUANTITY	DOLLARS
B-2A Bomber	5	5,536
Strategic Defense Initiative	-	4,471
TRIDENT Submarine	1	1,453
TRIDENT II Missile	52	1,746
PEACEKEEPER/Rail Garrison	12	2,836
Small ICBM	-	202

CHART # 14

FY 1991 LAND FORCES

SYSTEM	QUANTITY	DOLLARS
UH-60 helicopters	72	469
Abrams M-1 tanks	225	838 *
Bradley Fighting Vehicles	600	695
Patriot Missile	817	909
Air Defense-Heavy System	220	272
STINGER Missile	6,922	252
TOW-2	13,946	272
Multiple Launch Rocket System	24,000	389

* Financed by transfers from prior years.

CHART # 15

FY 1991 NAVAL FORCES

SYSTEM	QUANTITY	DOLLARS
SSN-21 Seawolf Attack Submarines	2	3,669
DDG-51 AEGIS Destroyers	5	3,681
LHD-1 Amphibious Ship	1	971
LSD-41 Cargo Variant	1	240
MHC Coastal Minehunter	3	281
AGOR Oceanographic Research Ships	1	48
AOE Multiproduct Ship	1	416

CHART # 16

FY 1991 TACTICAL AIR FORCES

SYSTEM	QUANTITY	DOLLARS
F-15E Fighter Aircraft	36	1,845 *
F-16D Fighter Aircraft	150	2,973
F/A-18 Fighter Aircraft	66	2,123
AV-8B Attack Aircraft	24	566
E-2C Surveillance Aircraft	6	449
Remanufacture F-14D Fighter Aircraft	12	1,118
Remanufacture EA-6B Aircraft	3	374

* Partially financed by transfers from prior years ($499 million).

technology, and NATO RDT&E at approximately the same level as FY 1990. In addition, the budget provides $158 million for the DoD share of continuing efforts on the National Aerospace plane.

• Military Construction. The FY 1991 Military Construction program is a balanced program that funds the minimum amount considered essential to support new weapon systems being deployed, to accomplish new or changed missions, and to provide adequate working conditions for our personnel and quality-of-life support for them and their families. Major programs supported include: Peacekeeper-Rail Garrison; Large Rocket Test Facility; Titan IV Launch Pad; B-2 bomber; and Trident IID. European construction is maintained at approximately the same level as FY 1990.

• Family Housing. The FY 1991 Family Housing program continues to demonstrate the Department's commitment to improving the living conditions of military personnel and their families. The request includes plans to construct or acquire 1,249 new housing units, to improve over 10,600 existing units, and to plan and design future projects. The budget includes request to lease 52,300 overseas units, an increase of 4,900 units over FY 1990.

Base Closure

The FY 1991 request includes $917 million, an increase of $416 million over FY 1990, to defray the implementation costs associated with the recommendations and schedule issued by the Commission on Base Realignments and Closures. Over the FY 1990-FY 1995 time frame, the net savings due to base closures are estimated at $1.2 billion. This consists of one-time implementation costs of $3.4 billion, which are offset by $4.6 billion of cost avoidances, savings, and revenues from anticipated land sales. After FY 1995, annual savings are estimated to be $700 million.

In addition, the Military Departments were requested to select other facility candidates for closure and realignment, which would reduce and relocate functions and personnel positions. The list of candidates, including both domestic and foreign bases, has been provided to the Congress.

DEFENSE MANAGEMENT REPORT

The cornerstone of a more efficient defense program that is higher in quality will be the Defense Management Report (DMR) and the costs savings initiatives it contains. The Report's major thrust is to act on problems, not restudy them. It stresses integrity, long-range planning, better communications DoD-wide, strict accountability of managers for results, teamwork, and innovation. The Report sets targets for management improvement, accompanied by substantial dollar savings. The first major installment of this effort is reflected in actions taken to reduce management costs in the FY 1991 budget. We have identified initiatives that will save about $2.3 billion in FY 1991 and reduce civilian employment by approximately 7,800 and also cut military strength by about 8,600. An additional $2.7 billion will be saved as a result of Army and the Air Force implementation of financing reparables through the stock fund. Over a 5-year period, we think the cumulative savings resulting from all these initiatives will be close to $39 billion, with corresponding reductions of 18,300 civilians and 24,600 military. (Chart 17)

CHART # 17

DMR SAVINGS IN THE FY 1991 DoD BUDGET

(Dollars in Millions)

CATEGORY	FY 1991	TOTAL FY 1991-1995
Logistics/Acquisition	1,450	21,000
Administration	300	3,700
Civilian Substitution	20	500
Automated Support & Information Systems	30	4,300
Finance, Procurement & Contract Management	200	3,900
Consolidation Studies	300	5,600
TOTAL SAVINGS	**2,300**	**39,000**
MANPOWER		
Civilians	7,800	18,300
Military	8,600	24,600

Major savings will be made in the area of logistics by better controlling the costs of supplies, repairable items, clothing, and the cost of transportation. Also, the Military Departments are planning to restructure their logistical commands and depots, thereby making substantial savings in personnel and operating costs.

A reduction in administrative costs for the Military Departments and Defense Agencies will result in significant savings. The Departments will cut back on headquarters staffs, reduce travel, and streamline overhead functions at various activities. Defense Agencies and the Office of the Secretary of Defense will also streamline their operations.

Automated support and information systems are also targeted management improvement. Although the savings are small in the t year due to the need for initial investment, we believe the rtment can save over $4.3 billion in the long-term through cing ADP development costs and by eliminating multiple lopment efforts aimed at satisfying the same or similar re_uirements.

DoD also plans improvements in financial operations, procurement, and contract administration. The major savings in FY 1991 will result from a reduction in the use of consultants, outside advisors, and other contractually-arranged assistance. But of equal significance for future operations will be the establishment of consolidated contract management and the development of stronger controls over government-owned material furnished to contractors. Also, the Navy will begin aggregating ship procurements into larger yearly lots, without increasing the total planned buy, in order to gain economies of scale in procurement of materials.

The Deputy Secretary has directed that a number of DoD functions be studied in order to develop plans for potential consolidations or other management efficiencies. These functions include supply depots, inventory control points, maintenance depots, accounting and finance centers, ADP design and operations centers, and R&D labs and test facilities. During the coming year we will be looking for other areas to improve management, and we fully expect that the principles embodied in the DMR will enable us to develop additional savings next year, and in subsequent years.

LEGISLATIVE PROPOSALS, REGULATORY, AND POLICY CHANGES

In addition to budget actions and planned reviews, we are also developing a set of legislative proposals to foster the goals of the Defense Management Report. These proposals will involve such areas as production, acquisition and logistics, personnel, environment, and financial management. The recommended changes will enable the Department to take a number of broad ranging actions which will produce economies and efficiencies in many functional areas. In addition, I recommend that the Congress review the entire statutory framework governing defense acquisition management.

I also ask that the Congress review the number and cost of reporting requirements levied on the Department during the course of the annual congressional review. Since 1970, the number of reports and studies has increased by over 2,300 percent. In FY 1989, the total cost of complying with congressional reporting requirements was $33 million and almost 509,000 man-hours. Many of these reports are quite complex and time-consuming and divert

resources from higher priority projects. I strongly believe that many of these reports are unnecessary and waste manpower and financial resources at a time when those resources are shrinking. I hope that we would be able to work together to reduce this burden.

LONG-TERM DEFENSE PROGRAM

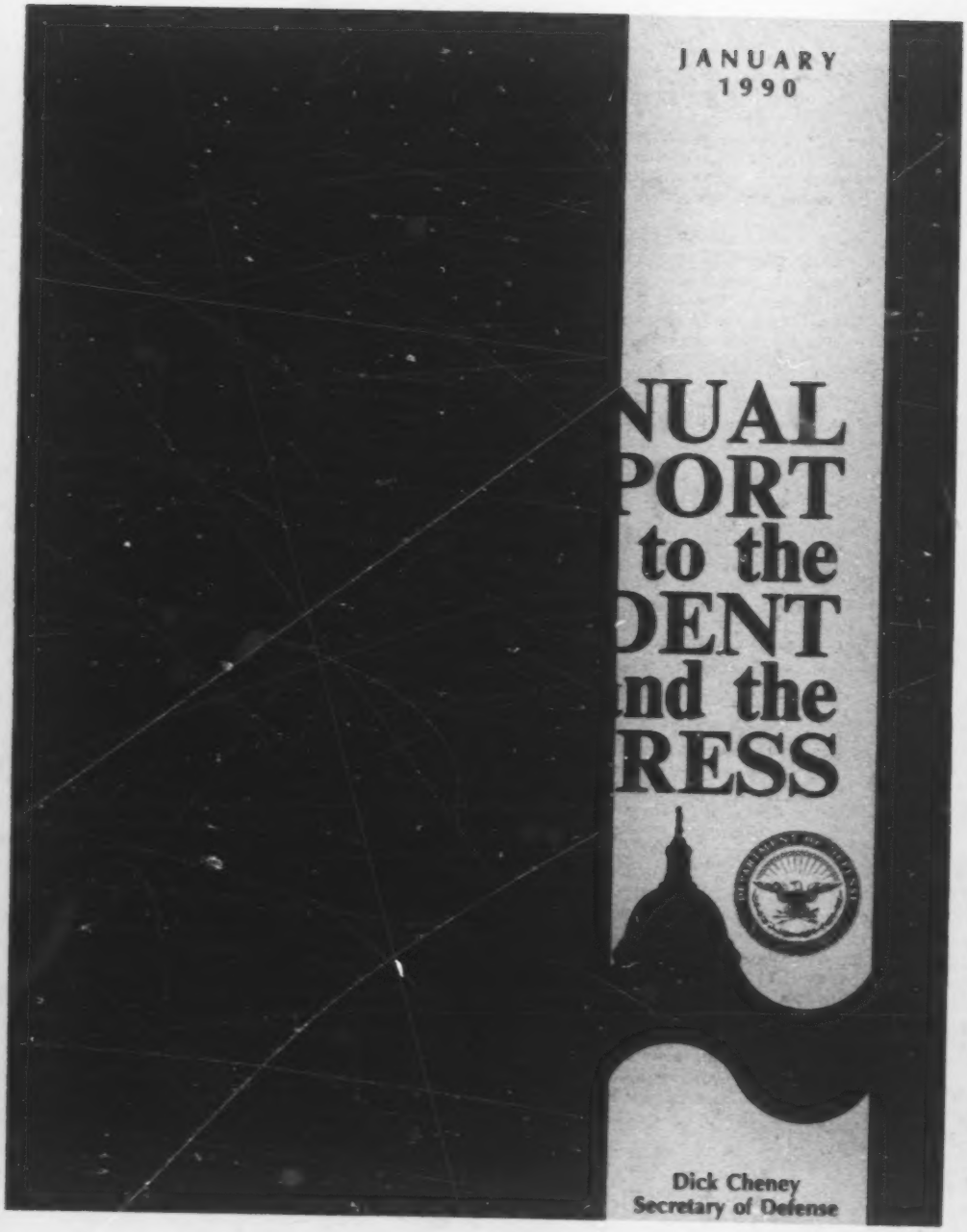
The current situation underscores the difficulty in planning, programming, and budgeting for long-term defense requirements. Three years ago, when the FY 1990/FY 1991 budget was in its initial planning phase, no one could have forecast the extent of the changes that were to occur in Europe, nor reflected those changes in a detailed composition of future defense budgets. Since that time, the FY 1991 budget has undergone numerous changes. Its size and content are now fundamentally different than they were three years ago. The FY 1991 budget is a very important transition in the rethinking of our requirements in response to changes in the world. This budget and future funding targets are set at a 2 percent annual rate of real decline. The next step is to develop a detailed program within that guidance.

We are now working to develop a program for FY 1992-1997 that takes further account of the changes in Eastern Europe and the Warsaw Pact. The Defense Planning Guidance outlining our overall policy and military strategy for this period has been issued and the fiscal guidance for this program will reflect changing missions and force priorities. We have also begun a detailed review of the requirements for, and alternatives to, four major aircraft programs now planned for acquisition. The proposals resulting from this study along with others from my staff and recommendations by the Military Departments could lead to additional changes to our force structure. For example, it might be possible to cut 3 Army divisions, 5 Air Wings, and a large number of ships and rethink the composition of our battle groups. However, as I stated before, the adjustments we made in FY 1991 and those we will make in future years are heavily contingent upon successful implementation of negotiated force reductions and a greatly improved warning time to react to hostilities. Successful CFE and START negotiations indeed could redefine our strategic posture that exists today and could result in dramatic changes in the size and makeup in our forces. But, we must guard against making irreversible changes in advance of successful negotiations.

CONCLUSION

In sum, promising security developments in Eastern Europe and elsewhere now make it prudent for America to begin to reshape its military posture. However, we must proceed cautiously and efficiently. We must gear our defense adjustments to actual changes in the threats facing us. We must coordinate our actions with our allies and with our arms reduction negotiations. Finally, we must allocate our defense dollars to produce the military capabilities our national security requires, not to satisfy domestic political or economic concerns.

I look forward to working with Congressional leaders as we consider how best to preserve our security and extend this past year's welcome rush toward freedom, economic opportunity, and responsive government.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Dick Cheney
Secretary of Defense

TO THE PRESIDENT AND THE CONGRESS OF THE UNITED STATES

This annual report is being published in the midst of historic and promising transformations in the global security environment. The implications are being felt everywhere, but nowhere more than in the Soviet Union and Eastern Europe.

For four decades, the primary concern of the North Atlantic Treaty Organization (NATO) has been to deter a Soviet-led attack on Western Europe. Now, instead of an invasion of troops moving from East to West, the ideas and institutions of freedom are moving from the West to the East.

The events of 1989 have reduced the threat of a sudden Soviet attack in Europe; they clearly call for a review of U.S. defense policy priorities in the 1990s. However, as we respond to these positive developments, we have a responsibility not to get ahead of events. Much remains unsettled, the Soviet Union remains a nuclear superpower, and U.S. interests over the coming decades will face a growing number of potentially serious threats from other sources. In short, the opportunities are great, but so are the uncertainties and risks.

We can respond to the opportunities, deal with the uncertainties, and control the risks if we first remember how we got to this point in history. Since World War II, the United States has been the major leader in the world urging the peaceful evolution of freedom, democracy, and economic well-being. We have been able to play that role because a bipartisan U.S. consensus has supported an alliance strategy of forward defense, based on forward deployment, flexible response, and adequate strategic nuclear and conventional deterrents. We have begun now to plan how to attain the same basic strategic objectives with a somewhat smaller defense budget. However, any reductions must be managed with great care. Even if the Soviet threat recedes permanently — and it has certainly not yet done so — American power will still be required to meet other contingencies and obligations worldwide.

We have recently seen a graphic example. The use of the military in Panama in December 1989 was a demonstration of how effective a well-trained, professionally led, adequately equipped, and appropriately applied military force can be. It took a major investment to develop the capabilities that made Operation Just Cause a success. Such capabilities will become even more critical in the future.

In coming decades, we must be prepared for the possible emergence of new powers, for potential Third World conflicts, and for the expansion of threats from insurgencies, terrorism, and narcotics trafficking. We also face increasing threats from chemical, biological, and nuclear weapons and missile proliferation. All of these changes are possible, some are very likely, and any of them would increase the complexity of defense. We must prepare for these future risks, without losing sight of either the opportunities or threats of the present.

Therefore, 1990 should be a year in which we plan carefully for a full range of realistic contingencies. We should respond positively, where appropriate, but we should not move so rashly that we shut off options that ought to be preserved. This annual report is a statement of where we now stand and a broad overview of the needs we foresee. The fiscal year (FY) 1991 budget will outline the Department's needs in what may be the first year in the next stage of U.S. military history. Meanwhile, we are beginning to work on the new defense program for FY 1992-97, which will carry us well into that new era of opportunity.

It is important, however, not to initiate premature 1992-97 budget cuts in 1991. There is an extraordinary degree of flux in the international environment. Remarkable changes have transformed Eastern Europe, but much remains to be

done before democratic institutions can take firm hold. Furthermore, we may still see the reemergence of some of the region's historic sources of turbulence.

Moreover, although we are optimistic about the negotiations over Conventional Armed Forces in Europe (CFE) and the Strategic Arms Reduction Talks (START), we must remember that those negotiations are still under way. Even under the timetable President Bush gave General Secretary Gorbachev in December, the treaties will not be ready for ratification until the next fiscal year has begun. The FY 1991 budget therefore must avoid unilateral cuts that would undercut allied bargaining leverage or create undue pressures for other premature reductions.

During the six-year program for FY 1992-97 we will continue our defense adjustments and make real budget reductions if several key assumptions hold true: first, that the positive developments we are now seeing continue; second, that we conclude satisfactory CFE and START agreements; and, third, that nothing happens to require an unforeseen, significant commitment of U.S. force. If these assumptions hold up, we plan to cut defense costs and to restructure the military in ways that will continue, in an uncertain world, to maintain deterrence and keep risks at a low level. If the assumptions do not hold up, we will have to reassess our defense planning guidelines again. However, following through on such a reassessment would be possible if, and only if, Congress does not slash the defense budget prematurely or unwisely in 1991.

The basic structure of this annual report is intended as a preparation for the program-by-program materials to follow in other documents. The report begins with a statement about national security concerns, objectives, and policy priorities. It then moves through a discussion of defense resources to an examination of specific defense components. Rather than summarize the entire report, I shall instead take this opportunity to review a few of the broad themes that will guide the Department's planning in coming months:

(1) Declarations of new Soviet policy intentions are only beginning to be implemented through changes in Soviet force structure. The reductions we have seen so far, the promise of additional changes, and the political developments in Eastern Europe give us hope that future reductions in our conventional forces will be possible. However, any plans for such reductions must be made in full consultation with our allies, they must be based on real and hard-to-reverse changes in Soviet forces, and they must be sufficiently reversible to allow for the inherent volatility of the political situation now unfolding in Eastern Europe and the Soviet Union.

(2) We must expect that the Soviets will continue to modernize their forces and maintain aggressive research and development programs. Therefore, as we think about reductions, we must pay attention to those elements of our defense program that would be hardest to restore if Soviet intentions should change — the quality of our officers and enlisted personnel, our research and weapons development programs, our industrial base, and the fundamental structure of our alliances.

(3) Deterrence of nuclear attack remains the cornerstone of U.S. national security. Regardless of improved U.S.-Soviet relations and potential arms control agreements, the Soviet ability to initiate strategic warfare against the United States will persist, and a crisis or political change in the Soviet Union could occur faster than we could rebuild our strategic forces. In fact, the Soviet Union has been pursuing a major strategic modernization program. We therefore must continue with the modernization of U.S. strategic forces.

(4) We must vigorously pursue the Strategic Defense Initiative (SDI), both because of Soviet strategic capabilities and because of the spread of ballistic missile technology to other countries. If anything, the new environment makes SDI even more important.

(5) Because the United States has permanent interests in Europe, we must continue to work closely with NATO, even as we seek a more equitable sharing of the defense burden.

(6) We must also recognize the challenges beyond Europe that may place significant demands on our defense capabilities. The changing requirements and new roles and missions assumed by U.S. forces will require strategies that rely more heavily on mobile, highly ready, well-equipped forces and solid power-projection capabilities.

(7) Special operations capabilities also will become increasingly important, and low-intensity conflict will remain, as it has since 1945, the most likely form of violence threatening U.S. interests.

(8) In coming years, our ability to develop, exploit, and protect advanced technologies is likely to be even more crucial than it has been in the past.

(9) We remain committed to improving the Department's relations with the defense industry. Continuing the sometimes adversarial relationships of the present can only harm the technology base and our military readiness in the future.

(10) Fully implementing the recommendations of the July 1989 Defense Management Report will be essential for the Department to perform at peak efficiency. Some of the proposed reforms can be implemented internally; others will require congressional action.

(11) Finally, our highest commitment must be to continue to attract, train, and retain talented and dedicated people to serve in the armed forces.

Undergirding these specific conclusions is a more general principle: the importance of maintaining Western prudence and stability in the face of change elsewhere. For more than 40 years, the United States and its allies have pursued a consistent strategy that has served us well. Our global presence and support for freedom have encouraged the growth of democracy and the flourishing of market economies in all parts of the world, not just in Europe. From the Philippines and South Korea to Panama, Chile, Brazil, El Salvador, and elsewhere, brave people have been struggling to nurture the institutions of democracy.

The strength of the Western alliance has maintained the peace while the flaws of the Soviet system have become visible to all. As a result, the international environment seems to be moving toward a safer future. Therefore, we should — and will — look carefully at our planning priorities. For today, however, uncertainty abounds. Now is not the time to abandon the fundamental approach that has taken us this far.

Dick Cheney

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PREFACE

This annual report describes the approach the Department of Defense (DoD) is taking to meet the many challenges to U.S. security interests. Although the changes begun in the Soviet Union and Eastern Europe are welcome, Soviet armed forces remain the most serious military threat to the United States and its allies. Developments elsewhere in the world also pose continuing challenges to our security. Instability resulting from economic pressures throughout the world, violence within the Third World, weapons proliferation, insurgencies, terrorism, and drug trafficking all threaten U.S. interests.

This era of tremendous uncertainty demands a carefully designed, flexible strategy. The United States must be dynamic and imaginative in responding to opportunities, but it must also be cautious. It must maintain defenses that are capable of deterring and, if necessary, responding to an increasing range of potential threats to its security.

The Administration's defense budget priorities remain clear. To perform its national security mission and execute effectively the national strategy, including the policies of flexible response and forward defense, the Department of Defense needs:

- High-quality people;
- Ready and sustainable forces;
- Modern strategic forces; and
- Efficient acquisition of weapons and equipment.

Obtaining these essential elements is a complex and difficult task in a fiscally constrained environment.

The framers of the Constitution gave Congress the power to appropriate funds to raise armies and provide a navy, and gave the President the power to command those forces. This constitutional framework calls for close cooperation between the executive and legislative branches of government to ensure a strong national defense. The Department of Defense will respond to that call.

Part II

NATIONAL SECURITY CONCERNS AND DEFENSE POLICY PRIORITIES

The United States is entering the decade of the 1990s facing both great opportunities and great uncertainties in the international security environment. U.S.-Soviet and East-West relations have improved markedly since the early 1980s. Recent changes in Eastern Europe may reduce the division of Europe and hold the long-term potential for bringing freedom and a decent quality of life to millions. Conditions are good for negotiating significant reductions in Soviet military forces and developing a durable framework for peace and cooperation. Nevertheless, the Soviet Union's military power remains formidable. Despite initial Soviet force reductions, an aggregate military capability built up during 20 years of relentless growth in Soviet defense spending continues to pose a potential threat to the interests of the United States and its allies. Soviet policy declarations reflect changes in Soviet intentions, but they are only just beginning to be implemented and are still relatively easy to reverse. In all events, the Soviets will continue to have a strong military capability.

These very significant realities offer unprecedented opportunities but also potential dangers. Our defense policy must respond to both. American strength has been a major factor in deterring aggression. We must first, therefore, continue to maintain a compelling conventional and nuclear deterrent posture, made possible in large part by a strong alliance system and global military presence. We must rely as much as possible on our two greatest strengths: well-motivated, high-quality people and technological innovation. In addition, precisely because declarative changes in policy are easy to reverse, we must pursue defense policies that encourage reform in the Soviet Union and Eastern Europe, making reversal more costly and therefore less likely. Control of conventional arms and the initiation of a dialogue on military doctrine are vital elements in our approach. Finally, we must save taxpayers' resources where a decreasing threat makes doing so possible.

While cooperative aspects of the U.S. relationship with the Soviet Union are growing in this period of change and uncertainty, the United States must be prepared to remain in long-term competition with the Soviet Union. The United States must ensure that its enduring strengths are aligned against enduring Soviet weaknesses. To accomplish this goal, the United States must identify key technologies, weapon systems, and operational concepts that are most likely to maximize the deterrent effect of increasingly constrained resources the United States devotes to the national defense. This approach, known as Competitive Strategies, maximizes the effectiveness of U.S. defenses and provides a hedge against any potential future failure of the cooperative aspects of U.S.-Soviet relations.

The nation must be prudent and cautious in adjusting the size and composition of its military forces. Abrupt, poorly planned cuts would pose great dangers to our long-term security. An inadequate defense structure cannot be rebuilt quickly should a revitalized threat require it. A decade or more is needed for research, design, and production of today's sophisticated weapon systems, and a decade may not be sufficient to recoup the essential leadership and warfighting knowledge that only experience develops. Due to the great uncertainties of the present, the nature of tomorrow's threat cannot be predicted with a high degree of confidence. The United States will be prepared to meet new challenges only if it maintains effective and flexible defense capabilities today.

Events in the following important areas reflect sweeping changes in the world that portend even greater security challenges in the coming years:

- **Events in Eastern Europe.** The unprecedented and revolutionary events in Eastern Europe are a clear victory for Western postwar policies. No one can predict the ultimate resolution of these events, however, making the prospective formulation of an effective policy difficult.
- **Events in Western Europe.** As the economies of Western Europe move toward integration by 1992, economic relations between the United States and the European Community will grow more complex. The potential impact of economic integration on defense production, cooperative agreements, and various burdensharing issues will require close examination.
- **Evolving Situation in China.** The Chinese government's violent crackdown on protests at Beijing's Tiananmen Square and elsewhere

throughout China called into doubt the chances for reform in China.

- **Increasing Economic Interdependence with the Nations of East Asia and the Pacific.** The growth in trade between the United States and the nations of East Asia and the Pacific has focused increased attention on defense priorities and U.S. interests in the region. Increasing economic competition and concern over U.S. access to military facilities will require special efforts to maintain international cooperation.
- **Turbulence in the Middle East and Southwest Asia.** Long-standing economic and political tensions in the Middle East and South Asia weaken local regimes, fuel regional arms races, and pose the threat of large-scale armed conflict. The Middle East's chronic instability could also jeopardize assured access to the region's oil, which is critical to the economic stability of the industrial world.
- **Proliferation of Weapons in the Third World.** High-technology weapons of all types are available in increasingly alarming quantities in the international marketplace. Proliferation of chemical, biological, and nuclear weapons, as well as modern long-range delivery systems, in the Third World constitutes a grave threat to U.S. interests.
- **Terrorism.** Americans are vulnerable to terrorist activities around the globe, and the number of incidents involving Americans may increase. This will enhance the likelihood of U.S. counterterrorist actions requiring DoD support.
- **Narcotics Trafficking.** The flow of illegal drugs into the United States and the continued demand for such drugs in our society have created an unprecedented and perplexing national security threat of major proportions.

U.S. national security objectives provide the essential, enduring elements upon which our defense strategy and policy are structured. One of the reasons for the success of America's postwar defense strategy has been its consistency. Based on our fundamental national security goal of preserving the United States as a free nation, our basic national security objectives include the following:

- To deter military attack against the United States, U.S. allies, and other U.S. interests; and to defeat such attack should deterrence fail.
- To reduce U.S. reliance on nuclear retaliation through active research and development of strategic defense technologies, through the negotiation of equitable and verifiable arms reduction agreements, and through the maintenance of strong conventional forces.
- To encourage the establishment and strengthening of freedom and democracy around the globe.
- To encourage and assist U.S. allies and friends in defending themselves against invasion, armed insurgencies, terrorism, or coercion.
- To encourage the political and economic reforms taking place in the Soviet Union and Eastern Europe, and to foster related adjustments in their military postures.
- To protect free commerce and ensure U.S. access to world markets, natural resources, the oceans, and space.
- To prevent or slow the proliferation of nuclear, chemical, and biological weapons, and the missiles and missile technology capable of delivering these weapons.
- To halt the transfer of militarily significant technology and resources to the Soviet Union and to other countries or entities that may use them in ways inimical to U.S. interests.
- To stem the flow of illegal drugs into the United States.

Several critical defense policy priorities flow from these objectives:

Credible Deterrent Forces. The United States deters war by making it clear in advance to potential aggressors that the costs of aggression would far outweigh any possible gains they might hope to achieve. Accordingly:

- To deter Soviet nuclear attack on the United States and its allies, and to help deter conventional attack, the United States maintains a diverse mix of survivable and capable strategic and nonstrategic nuclear offensive forces that hold at risk those assets most valued by Soviet leaders and provide a range of options in response to attack.
- At the same time, the United States actively pursues research and development of effective strategic defenses, with the objective of developing options for strengthening deterrence and stability through the deployment of a strategic defense system.
- Pending an effective ban on chemical weapons, the United States maintains credible chemical defensive and retaliatory capabilities as an

effective deterrent against an attack with chemical weapons.

- The United States maintains conventional forces that are sized, equipped, and positioned to fight effectively, in combination with the forces of its allies, at the point of an attack. The United States' aim is to be clearly able to defeat such an attack quickly and decisively, preferably without resort to nuclear weapons and without extending the conflict to other theaters.

Alliance Structure. Through shared values and common interests, the United States and its European allies have forged a security partnership that has preserved peace and democracy in Western Europe for more than 40 years and enhanced global stability. The partnership has worked because it has provided a deterrent to aggression, contributed to the forward defense of our common interests, and supported the efficient allocation of manpower and materiel. Similarly, U.S. alliances with Asian and Latin American countries have protected free nations through mutual defense.

Arms Control. The United States engages in arms control as part of a coordinated effort to enhance its security — not as an end unto itself. Through arms reduction agreements, the United States seeks to reduce military threats to U.S. and allied interests, inject greater predictability into military relationships, and channel force postures in more stabilizing directions. Such agreements must place a premium on the detection of militarily significant noncompliance and preserve the latitude to conduct an effective political, economic, or military response. Negotiations currently under way include the Conventional Armed Forces in Europe (CFE) talks, the Strategic Arms Reduction Talks (START), Defense and Space Talks (DST), nuclear testing talks (NTT), chemical weapons negotiations, and negotiations on confidence and security-building measures (CSBMs).

Verification is an essential element of the arms control process. In 1988 the On-Site Inspection Agency was established as a separate DoD agency to carry out U.S. inspection activities under the terms of the U.S.-Soviet Intermediate-Range Nuclear Forces (INF) Treaty. The agency also coordinates the equivalent Soviet activities at U.S. facilities in the United States and in Western Europe.

Fight Against Illegal Drugs. The detection and countering of the production, trafficking, and use of illegal drugs are high-priority national security missions of the Defense Department. The supply of illicit drugs to the United States from abroad, the associated violence and international instability, and the use of illegal drugs within this country pose a direct threat to our security. By law, the Department of Defense serves as the lead agency within the federal government for detecting and monitoring the airborne and maritime transit of illegal drugs to the United States. By direction of the Secretary of Defense, the Department is substantially engaged in the national fight against illegal drugs.

Technology Security. Soviet-East European attempts to gain access to Western-controlled militarily critical technologies continue unabated. NATO reaffirmed at its May 1989 summit that technology security remains central to Western security as we negotiate arms reductions with the Soviet Union and Eastern European countries.

Technology security issues, however, are not limited solely to the Soviet Union and Eastern Europe. Third World nations in pursuit of nuclear, chemical, or biological weapons technology or missile technology also present a serious challenge to the United States and must remain a focus of attention.

Low-Intensity Conflict. Low-intensity conflict continues to be the most likely form of violence involving U.S. interests. In addition to violence resulting from insurgencies, regional hostilities, and terrorism, U.S. forces face potential threats from drug trafficking and the proliferation of chemical/biological weapons. We must prepare an active and timely defense against such violence, one that presents a credible deterrent and remains capable of using power when necessary. The Department must also address the underlying causes of instability by assisting in the nation-building process through economic, security, and humanitarian assistance, and civic action in support of U.S. foreign policy objectives.

Improved Intelligence Support. In uncertain, rapidly changing times, effective intelligence capabilities become even more critical to assessing significant events. Dynamic policy that effectively

responds to these events is dependent upon a comprehensive, current, and sophisticated intelligence data base. Accurate and insightful analyses of capabilities and intentions of an ever-broadening range of potential adversaries are essential to an effective force-structuring process. As a result, a high priority has been placed on strengthening U.S. intelligence collection and production capabilities.

Research and Development (R&D). Continued investment in research and development remains an important policy priority. R&D programs have contributed to deterrence over the past decade, and continued investment today is vital if we are to achieve a secure future.

These policy priorities, which represent but a sampling of matters of concern to the Department, respond to a changing world environment. While moving to capitalize on these changes, the United States must maintain its military capability to respond successfully to any threat to its national security.

COLLECTIVE SECURITY

One of the first principles of our security strategy is to maintain vigorous alliance relationships that promote forward defense of the United States and collectively maintain peace with freedom through strength.

The United States currently is party to seven formal alliances:

- The North Atlantic Treaty Organization (NATO) alliance;
- The Australia-New Zealand-United States (ANZUS) alliance (although U.S. obligations to New Zealand are suspended as a result of New Zealand's decision to ban U.S. nuclear-powered and nuclear-capable ships from its ports);
- The Treaty of Mutual Cooperation and Security between the United States and Japan;
- The Mutual Defense Treaty between the United States and the Republic of Korea;
- The Mutual Defense Treaty between the United States and the Republic of the Philippines;
- The Southeast Asia Collective Defense Treaty (which remains in effect with Australia, New Zealand, the Philippines, Thailand, France, and the United Kingdom); and
- The Inter-American Treaty of Reciprocal Assistance (the Rio Treaty).

In addition to these alliances, the United States maintains defense agreements and less formal arrangements with a number of other nations.

The alliance structure has succeeded because the United States and its allies share common political, economic, and security interests. The United States must continue to reaffirm the alliance policies that have kept it and its allies free and secure for 40 years. As we face new challenges, we must maintain our leadership role, since we are the only free power currently capable of responding to aggression in global terms. But in fulfilling that role, we will depend more than in the past on our allies to share the crucial responsibilities of our mutual defense.

As the United States seeks to maintain the vitality of its alliances, there are several major issues that must be addressed squarely. These include sharing the mutual responsibility for the common defense, international armaments cooperation, overseas basing, and security assistance.

Sharing the Mutual Defense Burden

Even as events unfold in a rapidly changing Europe, at the heart of American concerns about sharing the responsibility for the defense of free Europe is the continuing need to maintain NATO's deterrent and defense capabilities. Currently, our European allies (excluding France and Spain, whose forces are not integrated into the NATO command structure) provide the majority of the forces and equipment deployed in Western Europe. Many of our allies make an important contribution to the common defense by providing us base access free of charge.

The United States seeks to concentrate on providing capabilities for which U.S. forces have a comparative advantage and to avoid duplication of effort with and among our allies.

Accordingly, we are urging our allies to:

- Meet force goals, especially those highlighted in the Conventional Defense Initiative (CDI);
- Improve sustainability (that is, the number of days of supply of war reserve stocks, munitions, petroleum products, and other basic supplies);
- Improve the readiness and efficiency of forces allocated to NATO; and
- Support long-term defense planning based on rationalization and division of labor, reserves, and mobilization capabilities and common and joint funding opportunities.

Our Asian allies also contribute substantially to the common defense. Japan provides the United States with bases at no cost to the U.S. at the most critical geostrategic location in Northeast Asia. In recent years, it has increased its share of the mutual defense responsibility, and now provides about 40 percent of the cost of stationing U.S. forces on its territory. Recently, the Japanese government agreed to fund approximately 50 percent of the total cost of Japanese labor employed on American bases in Japan. In addition, Japan now spends some $30 billion a year on defense, which is roughly equivalent to the individual French, British, and West German defense budgets. But Japan should do even more in the area of cost

sharing and in improving the quality and sustainability of its current forces.

The U.S. alliance with the Republic of Korea and the presence of U.S. forces in that country have sustained deterrence on the Korean Peninsula for almost four decades and continue to contribute significantly to regional peace and stability. Korea's contributions to the alliance are substantial; its annual defense expenditures are slightly under 5 percent of GNP. In addition, Korea funds aircraft depot maintenance and the cost of maintaining war reserve stocks, contributes to theater communications, and supports military construction projects. During the 21st Security Consultative Meeting between the U.S. and South Korean governments in July 1989, both nations reiterated their commitment to retaining U.S. troops in Korea as long as the U.S. and Korean governments and people want them there. The Republic of Korea currently contributes approximately $300 million per year out of its cash budget to offset the cost of maintaining U.S. forces in the Republic.

International Armaments Cooperation

The United States is making substantial progress in increasing cooperative weapon development programs with its allies. By promoting standardization and interoperability of weaponry, these programs are critical to allied effectiveness. They also reduce redundant expenditures. The Department of Defense considers cooperative opportunities to be an integral part of many U.S. acquisition decisions, and NATO and Japan are moving toward integrating cooperative programs into their armaments planning systems.

Since 1985, the Congress has provided funds specifically for cooperative research, development, and testing efforts with NATO and non-NATO allies. One of these initiatives — the Cooperative R&D Program — is aimed at bringing coordination to the NATO nations' otherwise separate programs for developing and building arms, thereby improving NATO's conventional military strength. U.S. industry receives an important benefit from the requirement to spend U.S. funds allocated to these projects entirely in the United States on American-produced goods and services. The advantages to the United States and its allies, in addition to improved military effectiveness, can be considerable, including reduced R&D costs, improved access to technology, and eventual economies of mass production. The program has proved successful, and our allies have signed memorandums of understanding committing them to pay approximately 60 percent of the cost shares of the associated research and development projects. Table 1 provides details on these projects.

Overseas Basing

Executing effectively the strategy of forward defense is an important priority. Foreign bases enhance deterrence, contribute to regional stability, allow U.S. forces to reduce their response time in meeting threats, and enable the United States to implement its defense strategy in a more cost-effective manner.

Although many countries in which U.S. forces are stationed have sought increased foreign aid in exchange for basing rights, the United States does not view foreign assistance as "rent" or compensation for base access, but rather as one element of U.S. participation in mutual defense efforts with its allies. There are, of course, clear fiscal limits to what the United States can provide. If mutually satisfactory arrangements cannot be achieved with various countries hosting U.S. forces currently, the United States must be prepared to make alternative arrangements.

Security Assistance

Security assistance to friendly foreign countries is an important part of our national security policy. It helps friends and allies deter aggression or defend themselves against external threats and enhances coalition defense by providing the additional resources needed to shoulder the common defense burden. Current U.S. security assistance priorities focus on encouraging peace in the Middle East, assisting our friends and allies in self-defense, contributing to mutual defense arrangements in which host governments in turn contribute, and aiding foreign drug-interdiction efforts.

There are two major components of our military assistance program: Foreign Military Sales Financing (FMSF), which provides direct credits or grants for the purchase of U.S. military goods and services; and International Military Education and Training (IMET), which is a low-cost, grant aid program that provides military education and training in the United States to approximately 6,000 foreign military personnel each year. The IMET program is one of the most cost-effective

Cooperative Projects with Signed Agreements and Associated Burdensharing Ratios

Table 1

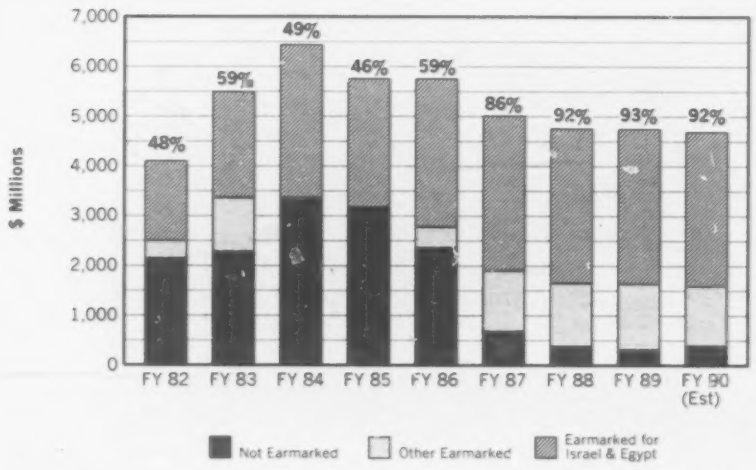
	United States Share (percentage)
Ada Project Support Environments	43.7
Multifunctional Information Distribution System	28.0
NATO Identification System	46.5
Airborne Radar Demonstration System	38.0
Advanced Short Takeoff/Vertical Landing Technology	50.0
Enhanced Fighter Maneuverability Aircraft	65.5
Surface Ship Torpedo Defense	50.0
Post 2000 Tactical Area Communications	16.7
Hawk Mobility Enhancement	50.0
Battlefield Information Collection and Exploitation System	50.0
LINK-11 Improvements	12.5
RPV Multimission Optronic Stabilized Payload	50.0
Total Cost Shares for MOUs Signed to Date — US:	40.0
Allied:	60.0

foreign policy tools of the U.S. government. Investing in the military education and training of military personnel from friendly countries greatly enhances the capability of those countries to defend themselves, at a low cost to the American taxpayer.

Unfortunately, resource constraints and congressional earmarking of funds have made it difficult to fashion a security assistance program of sufficient size and with proper focus to protect and advance our security interests. Funding for FMSF has decreased by over 26 percent since FY 1984, while the percentage of funds earmarked by the Congress for a few favored programs has increased from 49 percent to 92 percent. Consequently, FMS funding available to non-earmarked countries has declined by over 90 percent since FY 1984, thus severely limiting our flexibility to address the security needs of numerous friendly governments. Chart 1 illustrates these trends.

Military Assistance Funding and Congressional Earmarks
FY 1982 - FY 1990

Chart 1



Note: Percentages indicate total of Military Assistance Funding earmarked.

BUDGET

Preparing and executing a defense budget that supports our national security strategy while providing necessary investments for the future remains complicated by the need for fiscal restraint. The United States must continue to provide an effective deterrent, engage its armed forces effectively in peacetime in the Third World, pursue technological advances that improve defense capabilities, and maintain the quality and readiness of its forces. The executive and legislative branches of government, utilizing creative and cooperative approaches, can meet the challenge of directing scarce resources effectively to address defense requirements.

Four priorities guided development of the Administration's FY 1991 budget request. These priorities are essential to a comprehensive and cohesive defense program that meets U.S. security requirements.

- **People.** The recruitment and retention of high-quality military and civilian personnel, their well-being, and their readiness continue to be among our highest priorities. The well-being of our uniformed personnel has a direct effect on the quality of our forces and their readiness. The FY 1991 budget provides an important pay raise. The budget also provides for reasonable living and working conditions for our service members through morale, welfare, recreation, and family support programs, and through education assistance.
- **Readiness and Sustainability.** The maintenance of high levels of readiness, supported by adequate training and operating tempos, is critical to the successful execution of our national defense strategy. Our forces must also be provisioned to sustain their warfighting capability for the duration of a conflict. The critical components of readiness are high-quality personnel, realistic training, modern weapons and equipment, and logistical support. The budget maintains operating tempos at levels sufficient to provide challenging training for operational units of all four services. Operating tempo, as well as opportunities for units to develop combat skills at high-technology training facilities, must be maintained at levels necessary to sustain readiness. Our sustainability programs ensure that U.S. forces will have the staying power to fight effectively in a prolonged conflict.
- **Efficient Acquisition.** The power, mobility, and qualitative edge of our nuclear, conventional, and unconventional forces depend on efficient acquisition of weapon systems under streamlined management. The budget continues to give emphasis to selected multiyear procurement and production programs at economical rates. It terminates low-priority efforts that are no longer needed or affordable.
- **Strategic Nuclear Modernization.** The capability, survivability, and endurance of our strategic nuclear forces and their associated command and control structure must be assured. The FY 1991 request provides for continued modernization of our strategic nuclear forces within fiscal constraints. It continues investment in modernized mobile intercontinental ballistic missiles, the Trident D-5 missile, the B-2 Stealth bomber, and the Milstar satellite communications system. Additionally, the Administration is committed to active research and development of strategic defenses as an integral part of modernization.

These four priorities are reflected throughout the FY 1991 budget proposal. They provide the vital guidelines for making tough decisions about defense programs.

Components of the FY 1991 Defense Budget

The Administration's defense budget for FY 1991 proposes budget authority of $295.1 billion (see Table 2). Appendix A summarizes the budget request by appropriation title and component.

The distribution of FY 1991 budget authority by major appropriation title is shown in Chart 2. Military personnel (including payments to service members, the accrued retirement cost of the current military force, and the cost of supporting programs) and operations and maintenance (including allocations for civilian personnel, maintenance and repair of equipment, utilities, medical services, training, fuel, and spare parts) constitute about 57 percent of DoD budget authority. The remainder of the budget provides funds for research and development, procurement of weapon systems and equipment, military construction, and family housing.

Department of Defense Budget (Dollars in Billions)

Table 2

	FY 1988	FY 1989	FY 1990	FY 1991
Current Dollars				
Total Obligational Authority[a]	288.6	292.2	292.3	297.3
Budget Authority[b]	283.8	290.8	291.4	295.1
Outlays[c]	281.9	294.9	286.8	292.1
FY 1991 Dollars				
Total Obligational Authority[a]	321.0	312.8	303.9	297.3
Budget Authority[b]	315.5	311.3	302.9	295.1
Outlays[c]	314.4	316.2	298.7	292.1

[a] **Total Obligational Authority (TOA)** represents the value of direct defense programs for each fiscal year, regardless of financing.
[b] **Budget Authority (BA)** permits the obligation of funds for immediate and future disbursement and is associated with the year the authority takes effect. Generally, the difference between TOA and BA stems from the application of receipts that offset total budget authority.
[c] **Outlays** represents actual expenditures. About 63 percent of FY 1991 outlays will result from FY 1991 budget authority; the remainder will come from budget authority provided in earlier years.

Outlays in FY 1991 (also see Chart 2) will go primarily for pay (46.2 percent), prior-year requirements (38.5 percent), and current-year operations (4.9 percent). Current-year operations cover base structure and support costs. Outlays from prior-year programs represent amounts already on contract and are largely a function of procurement and research and development investments made in earlier years. Nearly 10.4 percent of FY 1991 outlays will be spent on new investment programs.

The budget request reflects a declining share of the U.S. gross national product, as shown in Chart 3. Planned defense outlays also represent a declining share of total federal outlays (see Chart 4). Proposed funding for the FY 1991-95 period is shown in Table 3.

Budget Predictability and Stability

Stable defense funding is essential to efficient program planning and execution over the long term. Hard-won gains in defense capability can be sustained, and an adequate defense posture assured, when funding is predictable and stable. Drastic swings in funding make effective program management impossible, and they unnecessarily increase the cost to the taxpayer of national defense.

One major benefit that accrues from predictability and stability is clear — planned production rates that provide for lower unit costs. Multiyear procurement (MYP) enables weapons to be purchased more economically and contributes to better planning. These benefits can be expanded and the

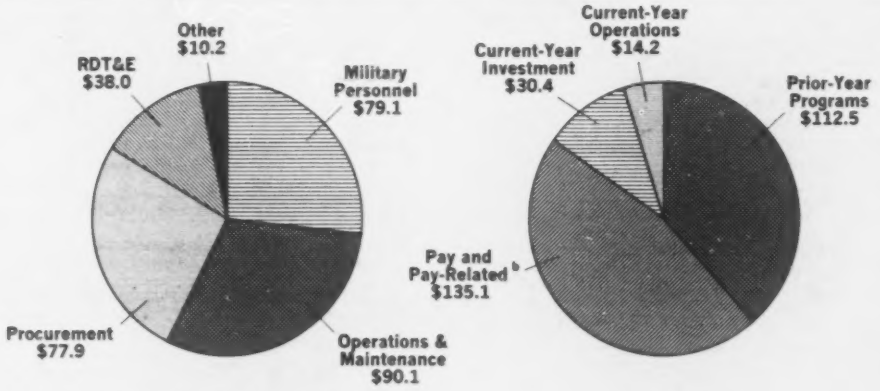
FY 1991 Department of Defense Budget Long-Range Forecasts (Current Dollars in Billions)

Table 3

	FY 1991	FY 1992	FY 1993	FY 1994	FY 1995
Budget Authority	295.1	300.0	304.4	308.0	311.8
Percent Real Growth	-2.6	-2.0	-2.0	-2.0	-2.0
Outlays	292.1	296.9	299.0	302.3	304.8

Department of Defense Budget Authority and Outlays [a]
(Dollars in Billions)

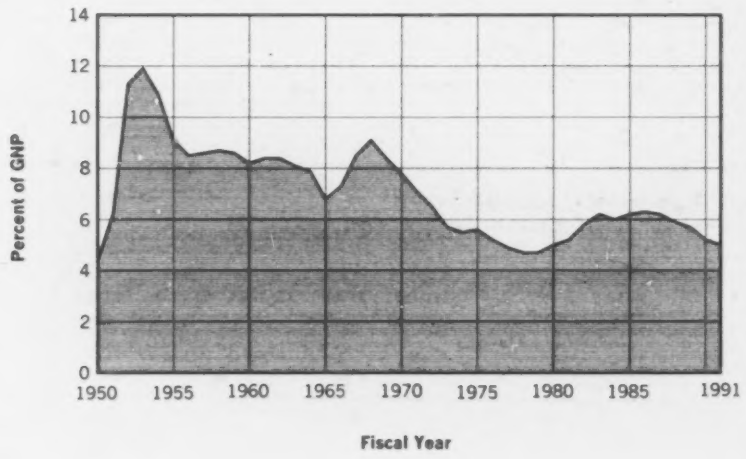
Chart 2



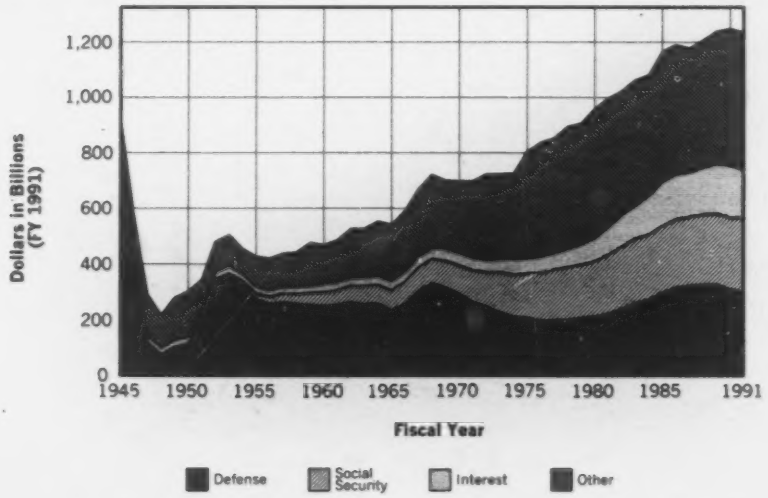
[a] Numbers may not add to totals due to rounding.
[b] Includes retirement pay accrual costs.

Defense Outlays as a Share of the Gross National Product

Chart 3



Total Federal Outlays Chart 4



savings multiplied only with defense budgets that are consistent and coherent over the long term. Bipartisan budget agreements between the leaders of the executive and legislative branches have proved important in establishing predictable and stable defense "topline" levels. Full implementation of two-year budgeting for both authorizations and appropriations would go even further toward providing the resource stability necessary for economic program execution.

Congressional Budget Reform

The size and complexity of the congressional structure has resulted in an increasingly time-consuming budget process, which has complicated the Congress's efforts to provide adequate defense resources within constrained funding levels. Defense legislation has become laden with restrictions that hinder the achievement of national security objectives. Increasing congressional micromanagement has hindered the Department's efforts to allocate resources and execute programs in ways that improve efficiency and effectiveness. Congressional demands for extensive written reports on myriad management decisions have imposed an ever-increasing workload on DoD, in many cases without significant benefit to congressional processes.

Simplifying and streamlining the congressional review process could provide the timely and responsive action on budget requests that is essential to stable and predictable defense funding. Full implementation of a biennial budget cycle, supported by long-term funding-level agreements, would make for a more orderly congressional process and a stronger national defense. Enhanced rescission authority would enable the executive branch to eliminate wasteful spending. Effective

congressional budget reform, combined with DoD management and acquisition reform, could produce a steady, affordable long-term defense program that meets the nation's security requirements.

STRENGTHENING DEFENSE MANAGEMENT

The Department must be prepared to respond to challenging international events in the years ahead. Potential threats to the security of the United States and its allies are likely to increase in some areas and diminish in others. They may well take new and more subtle forms, necessitating U.S. military forces that are modern, ready, and sustainable in a variety of contingencies.

At the same time, as a result of competing national priorities, there can be no doubt that the real resources available for defense in the early 1990s will decline significantly. If the United States is to continue to protect its global interests, meet its responsibilities, and minimize risks to its security, the Department of Defense must preserve essential military capabilities through the ever more efficient use of the resources at its disposal. Such circumstances compel the utmost attention to prudent management of the defense program — and oblige the executive branch, Congress, and industry, more than ever, to join in husbanding available defense dollars, cutting costs, and achieving new levels of productivity and quality. The Department must:

- Ensure the continued strength and readiness of the armed forces;
- Acquire needed weapon systems in less time, at lower cost, and with promised performance;
- Encourage industry and government to meet the highest standards of integrity and performance; and
- Strengthen public confidence in the Department's stewardship of defense resources.

This is a task of immense proportions, requiring improvements in defense management on the scale contemplated by the Packard Commission, the Goldwater-Nichols Defense Reorganization Act of 1986, and the July 1989 Defense Management Report to the President. Answers will not be found in "quick fixes" or simple statements of managerial philosophy. Instead, a concerted long-term effort is required.

The July 1989 Report to the President on Defense Management established a broad agenda to accomplish full implementation of the recommendations of the Packard Commission and to realize substantial improvements in defense management overall. Many of the initiatives proposed in the Report are being undertaken on the authority of the Secretary of Defense. Some will require concerted action within the Administration, with other executive departments and agencies. Still others — among them actions that hold the greatest promise for long-term improvement — will require the active support of the Congress and the defense industry.

The Defense Management Report sets forth a plan to implement the Packard Commission's recommendations, to improve substantially the defense acquisition system, and to manage the Department and defense resources more effectively. The report identifies requirements to:

- Forge better links among national policy, military strategy, force structure, resources, and programs;
- Enhance programmatic and technical input during resource allocation discussions;
- Reduce significantly the number of programs that overrun their budgets, are late, or are technically deficient;
- Reduce overhead costs while maintaining military strength;
- Establish and enforce high ethical standards of conduct in DoD and the defense industry;
- Reduce micromanagement and simplify the laws and regulations governing DoD;
- Reverse the decline in the industrial base; and
- Improve relations among Congress, DoD, and the defense industry.

Forging better links among national policy, military strategy, force structure, resources, and programs: To facilitate communication regarding fundamental issues of defense policy and management, the Department has established an Executive Committee of the Department of Defense. The committee is chaired by the Secretary and includes the Deputy Secretary, the secretaries of the military departments, the Chairman of the Joint Chiefs of Staff, and the Under Secretaries of Defense for Acquisition and Policy. In addition, a reorganized Defense Planning and Resources Board (DPRB) has permitted more effort to be concentrated on effective planning, thereby improving the linkage among national security policy, military strategy, and resource allocations for specific programs and forces. The Department's new Defense Planning

Guidance will provide for the resolution of several significant planning topics, define the essence of a national defense strategy, summarize high-priority defense concerns, and establish guidelines for developing an integrated long-range plan for DoD.

Enhancing programmatic and technical input during resource allocation discussions: Improved program and technical input in allocating resources will be accomplished by ensuring that:

- The role of the Under Secretary of Defense for Acquisition (USD(A)) is enhanced through his active participation in all phases of the Planning, Programming, and Budgeting System (PPBS) and deliberations on major budget issues.
- The Under Secretary of Defense for Policy (USD(P)) serves as the Secretary's and the Deputy Secretary's primary advisor for the planning phase of PPBS and is a key participant in programming and budgeting decisions.

Reducing significantly the number of programs that overrun their budgets, are late, or are technically deficient: Several initiatives are directed at ensuring that programs meet schedule, cost, and performance requirements. First, the USD(A) will manage a more disciplined review process for major acquisition programs. The reviews, conducted by the Defense Acquisition Board (DAB), will make certain that every program is ready for more advanced stages of development before receiving approval to move to the next milestone phase. The reviews also will ensure that plans for advanced development stages are consistent with sound acquisition management.

Second, the Joint Requirements Oversight Council (JROC) will assume a broader role in support of DAB decisionmaking. A revised JROC charter provides for:

- Review of all warfighting deficiencies that could necessitate development of major systems prior to their consideration by the DAB;
- Review of the validity of identified mission needs and assignment of joint priorities for meeting those needs;
- Validation of performance goals and baselines prior to DAB review of major programs; and
- Selection of programs for recommendation to the USD(A) as candidates for joint development and production.

Third, the authority of program managers (PMs) will be strengthened by:

- Establishing unambiguous and abbreviated chains of command to the most senior decisionmakers;
- Establishing clear lines of responsibility and authority downward from the service acquisition executives (SAEs) through the program executive officers (PEOs) to the PMs; and
- Providing for PMs to report exclusively to their PEOs, thus streamlining the chain of command in acquisition matters and reducing reporting requirements.

Fourth, program stability will be enhanced by:

- Taking greater advantage of multiyear contracting; and
- Ensuring that successful PMs and PEOs enjoy sustained tenure, ideally to direct their programs through an entire milestone phase.

Fifth, the quality of the defense acquisition work force will be enhanced by the establishment of a dedicated corps of officers within each service who will make full-time careers as acquisition specialists. These plans will ensure:

- Selection of highly promising officers early in their careers;
- Timely specialization in acquisition, including the election of such career paths by officers with some significant operational experience;
- Assignment, other than in exceptional cases, to acquisition positions and related training once selected;
- Creation of attractive and equitable career paths, including designation of corps-eligible positions; and
- Assurance of promotion potential up to the highest flag grades.

The Department also will work with the Office of Personnel Management (OPM) to make DoD civilian career opportunities more competitive with those in the private sector. This will include supporting the Administration's proposed legislation allowing DoD and other agencies to pay for degree-related course work by civilian

employees in critical hard-to-fill areas. In addition, the Department is seeking prompt action by OPM on classification of DoD contracting officers as a professional personnel series. In the case of officers with the authority to award contracts of more than $25,000, DoD will seek the adoption of classification standards that require an appropriate combination of relevant work experience and education.

Sixth, to increase the prototyping and testing of major procurement items, the USD(A) will develop and apply policies that support sound decisions on major programs through full-scale engineering development. These policies will dictate schedules and management plans for major programs that:

- Support the building and testing of system and critical subsystem prototypes, the use of systems engineering, and the validation of manufacturing processes as early as possible; and
- Provide for early testing and evaluation of prototype hardware to demonstrate their design concepts, performance, and suitability in realistic operating environments.

Reducing overhead costs while maintaining military strength: The Department is instituting programs that focus on continuously improving the quality and effectiveness of defense processes, products, and services. This effort includes eliminating management layers and research, development, and procurement-related functions that do not add clear value. It also provides incentives to managers and employees to use their creativity to improve performance and consistency, and it ends reliance on review and inspection as a primary means of ensuring quality. The goal is an overall improvement in the efficiency of DoD's acquisition management, logistics, distribution, and related maintenance activities.

Greater efficiency and cost reductions also will be accomplished through other measures. There will be strong management oversight of the base closure and realignment process. Also, DoD contract administration services (CAS) will be consolidated to:

- Streamline CAS organizations;
- Promote uniform interpretation of regulations;
- Improve the implementation of DoD procurement policy; and
- Upgrade the quality of the CAS work force while reducing payroll costs.

In addition, the Department is developing a corporate information management program to improve the standardization, quality, and consistency of data from DoD's multiple management information systems. The goal is to reduce unnecessary redundancy and to realize savings in both the $9 billion spent annually on information technology and in the DoD business areas these systems support.

Establishing and enforcing high ethical standards of conduct in DoD and the defense industry: The Department of Defense will not tolerate illegal or unethical behavior. DoD encourages contractor self-governance and the establishment of appropriate corporate codes of conduct.

DoD has established an Ethics Council consisting of the USD(A) and the secretaries of the military departments, advised by the DoD Inspector General and General Counsel. The council is charged with developing ethics programs for the acquisition work force and improving existing compliance programs. It also will develop broader programs to enhance awareness and understanding of ethical issues — how they arise day to day, how existing standards may or may not apply, and what responsibilities DoD managers have as ethical leaders.

Reducing micromanagement and simplifying the laws and regulations governing DoD: A task force headed by the Under Secretary of Defense for Acquisition is conducting a zero-based review of regulatory and other guidance pertaining to acquisition, procurement, logistics, and related activities, beginning with DoD-level directives and proceeding down through the military departments and their components. The task force is governed by the strong presumption that regulations should not be retained or duplicated unless there is a clear and convincing need to do so. Special scrutiny is being given to measures that limit judgment, creativity, or initiative or that inhibit the implementation of sound procurement policies.

Another task force is reviewing existing programs and initiatives for advocacy of special, single-purpose requirements. The task force will

be charged with developing a plan to eliminate as many such programs as possible.

An important simplification initiative is "acquisition management by exception" — that is, intervention by senior management only at major acquisition milestones, at a program manager's request, or in the event a program encounters substantial problems in meeting its baseline. In the 1987 Defense Authorization Act, the Congress gave DoD authority to designate a limited number of acquisition initiatives as "Defense Enterprise Programs" in order to test the viability of this approach. The Department plans to utilize it.

Reversing the decline in the industrial base: DoD is committed to policies and programs that will enhance America's competitive strength and bolster our industrial base. For example, the Department intends, when appropriate, to establish contractual relations that give its suppliers financial incentives to explore technologies that could improve weapons performance and reduce life-cycle costs. In addition to promoting the use of multiyear contracts, the USD(A) will limit strictly the use of cost-sharing contracts for systems development and the use of fixed-price contracts for high-risk development efforts.

The USD(A) will also help promote the long-term, efficient producibility of systems. With the Vice Chairman of the Joint Chiefs of Staff, he will seek to expand the use of broad performance specifications in weapons design. He will also seek to ensure that specifications are locked in prior to high-rate production and that upgrades or modifications are made on a block, not a piecemeal, basis.

Improving relations among Congress, DoD, and the defense industry: The Department will continue its voluntary disclosure program, under which DoD contractors are encouraged to demonstrate their commitment to business integrity and honesty by disclosing evidence of potential civil or criminal fraud in their contracts with DoD. To reduce the possibility of inconsistent treatment of such disclosures, the Department will work with appropriate agencies to develop standard criteria for program participation. In addition, to create clear incentives for corporate management, voluntary disclosure of potential violations will remain an important consideration, consistent with applicable law, in the determination of the sanctions DoD might apply.

DoD also will continue to encourage industry participation in its Contractor Risk Assessment Guide (CRAG) program. This program promises more efficient use of DoD audit capabilities by placing greater reliance on contractors to establish effective systems of internal controls. In conjunction with the CRAG program, the Defense Contract Audit Agency (DCAA) has encouraged broader DoD-industry communications on annual government audit plans in order to highlight opportunities for improved contractor internal controls.

Over the long term, DoD will seek to develop a procurement system that rewards contractors for demonstrating their commitment to effective self-governance. A supplier's proven reputation for integrity is one important standard that can be applied in making contract decisions. As in the commercial marketplace, the totality of a firm's performance should be considered in order to ensure that the government receives the best value from the suppliers with whom it does business.

The Department will continue to work with the Congress to fashion a more effective and efficient budget and acquisition process. There are many recommendations for improvement that the Department will be able to institute on its own authority, but several key initiatives aimed at streamlining these processes will require the close cooperation of the Congress and legislative reforms. If DoD is to implement quality and cost-reduction programs successfully, the Congress must provide key legislative initiatives in the form of new laws and repeal or modify others so as to streamline congressional oversight and improve the budgetary process.

PERSONNEL

Our foremost budget priority is to preserve the high quality of the personnel who constitute this nation's most critical defense resource. If we are to recruit and retain highly educated, motivated, and dedicated men and women, service in defense of the nation's security must be regarded as the honorable and attractive profession that it is. Such service must reflect the highest ideals of the nation, it must adequately compensate those serving for the sacrifices demanded of them, and it must provide a desirable standard of living for them.

Recruiting, training, and operational experience data indicate that the quality of our personnel has never been higher. The maintenance of this standard of excellence demands a commitment to recruiting, retention, and quality-of-life programs for all our personnel. Demographic, economic, and technological trends challenge our ability to meet that commitment. The Department's success will, therefore, require insightful management policies and sufficient levels of funding.

Total Force Management

The work force required to support the nation's defense is determined by a complex system that translates national security requirements into the various types and numbers of personnel that constitute the total force. The force structure reflects the U.S. forward-defense strategy, under which units are forward deployed and supplemented by forces based in the continental United States (CONUS). Total force planning must consider the categories of personnel (active and reserve component, DoD civilian, private contractor, and host-nation support) that might be used in various contingencies. The process begins with an evaluation of the number and type of threats confronting the United States, and the strategies, capabilities, and risks associated with countering them. It considers the United States' ability to react to contingencies under both mobilized and nonmobilized conditions, as well as allied capabilities. Fiscal constraints also influence the types and quantities of units, equipment, and personnel that can be maintained in the force structure. Total force composition is reflected in Chart 5.

Significant portions of the Department's military and civilian work forces remain regulated by congressionally imposed ceilings. This prevents maximum efficiency and effectiveness in total force management. For example, current congressional restrictions hamper the Department's ability to pursue hiring policies that would enable it to take advantage of greatly needed capabilities of spouses of service members assigned outside the continental United States. Also, limits on the size of defense agencies and headquarters impede optimum distribution of resources within and among these organizations.

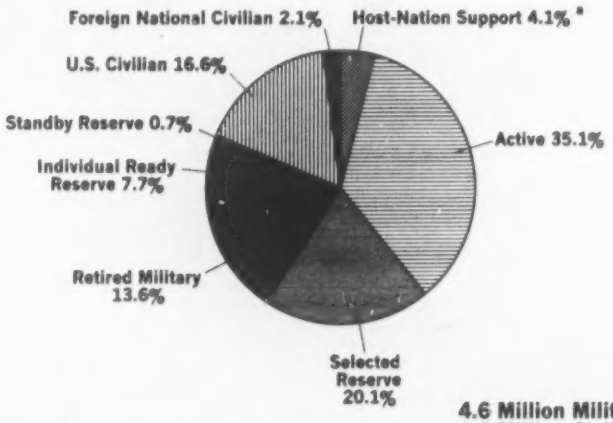
The Department of Defense needs the flexibility to make adjustments in the personnel management systems governed by existing legislation. Some amendments will be necessary if the Department is to continue to manage military personnel effectively.

Recruiting

As the sophistication and complexity of military equipment has increased, so has the need for highly competent and motivated personnel to acquire, operate, and maintain it. During the 1980s, the Department succeeded in attracting highly educated military recruits for both the active and reserve components. Between FY 1980 and FY 1985, the proportion of recruits who were high school graduates jumped from 68 to 93 percent, and the share has remained above the 90 percent level since FY 1984. In comparison, only 75 percent of the youths in the civilian population have graduated from high school. Enlistment test scores among recruits also have risen since 1980. This improvement in recruit quality has continued despite a 15 percent reduction in the 18- to 24-year-old population since 1979. Our success, in large part, is attributable to sound incentive programs, including the funding of future education. These recruitment numbers are reflected in Table 4.

Difficult challenges are on the horizon, however. The declining youth population, a strong economy in which the military must compete with the private sector for potential recruits, the complexity of new weapon systems, and competition for federal dollars are some of the realities facing manpower planners. The Department has worked hard to reduce the impact of these concerns. For example, weapon and support systems are being designed to minimize both the number and skill level of people needed to operate and support them. Training

Composition of the Total Force Chart 5



* Host-nation support includes military and civilian.

programs and devices (including computer-based simulators) also are being developed systematically during the acquisition process. The average period of active service has been increased through longer initial enlistment contracts and retention of skilled specialists both to gain a greater return on training investments and to reduce future recruiting needs. Research is under way to quantify changing trends in ethnic, gender, and skill levels; to determine how to link job performance requirements with changing recruit characteristics; and to identify ways in which recruiting and training programs might be modified to reflect these changes. These programs are designed to enable the Department to do more with reduced manpower resources. While the size of military forces will be reduced, the importance of recruiting and retaining high-quality personnel for positions that remain will be even more critical, as each individual comprises a greater share of unit capability. Consequently, adequate recruiting and retention resources will remain an important budget priority.

The growing scarcity of technical personnel is a specific recruiting concern. Numerous studies have projected a decline in the number of people seeking college degrees in fields in high demand in the Department — especially science and engineering. This is of special concern since, as pointed out by the Packard Commission and the July 1989 Defense Management Report, technical skills will be increasingly important in the drive to improve the quality and reduce the cost of U.S. weapon systems.

Technicians constitute a major portion of the Department's acquisition work force. They work in jobs related to research and development, procurement, logistics, distribution, and equipment maintenance. Their collective efforts are crucial to the U.S. defense program, and much depends upon how efficiently and effectively they perform their duties. As the Packard Commission pointed out: ". . . [C]ompared to its industry counterparts, this work force is undertrained, underpaid, and

Quality and Numbers of Enlisted Active-Duty Accessions[a] (Numbers In Thousands)

Table 4

	Quality Indices			Accessions	
	Percent High School Graduates	Percent Average or Above Aptitude	FY 1989	FY 1990[b] Planned	FY 1991[b] Planned
Army	90	93	119.9	97.4	95.5
Navy	91	91	94.3	88.4	85.9
Marine Corps	95	99+	34.2	34.7	36.0
Air Force	99	99+	43.8	36.4	36.4
Total DoD	**92**	**94**	**292.2**	**256.9**	**253.8**

[a] Includes prior service and nonprior service accesssions.
[b] Estimates as of January 1990.

inexperienced. Whatever other changes may be made, it is vitally important to enhance the quality of the defense acquisition work force — both by attracting qualified new personnel and by improving the training and motivation of current personnel." A major focus of the Defense Management Report process has been identifying and implementing steps to accomplish the commission's broad objectives.

On the civilian side, the Department suffers from the outdated and ineffective civil service system mandated by statute. The four aspects of the current system that most seriously hurt DoD competitiveness are:

- Excessively regulated and time-consuming hiring procedures;
- Rigid and often inadequate compensation standards;
- A cumbersome job classification system; and
- A performance appraisal system that does not adequately tie pay to performance.

Eight years ago, the Navy instituted the China Lake Personnel Demonstration Project to address these areas of concern. The project proved the viability of a less rigid personnel management system and demonstrated the clear advantages such a system could offer to DoD employees and managers alike, including notable improvements in working environments, professional rewards, recruitment, and retention. Its success has been due to several distinct features:

- A market-sensitive hiring system that allows the government to compete more effectively for high-quality personnel in hard-to-fill jobs;
- A performance-oriented compensation system that links pay to performance to an extent not possible under the existing civil service system;
- A personnel system that greatly reduces the administrative effort and costs associated with federal personnel management; and
- An administrative system that gives line managers greater responsibility for personnel functions.

DoD also seeks to strengthen further the professionalism of its civilian procurement work force. Specifically, it is striving to make its employees' capabilities and career opportunities more competitive with those of their private-sector counterparts.

On the military side, the secretaries of the military departments, working with the service chiefs, have developed plans to establish a dedicated corps of officers in each service who will pursue full-time careers as acquisition specialists. The plans include specialized educational requirements and the

Selected Reserve Enlistments (Numbers In Thousands)

Table 5

	FY 1989 Objectives	FY 1989 Achieved	FY 1990 Objectives	FY 1991 Objectives
Army National Guard	77.8	71.1	77.1	77.2
Army Reserve	78.1	75.4	76.4	75.0
Naval Reserve	36.8	30.2	33.6	33.6
Marine Corps Reserve	12.6	12.0	13.2	13.2
Air National Guard	11.2	11.6	12.4	11.1
Air Force Reserve	14.7	11.6	14.0	13.5
Total	**231.2**	**211.9**	**226.7**	**223.6**

provision of training opportunities for acquisition corps officers throughout their careers.

Reserve Forces

The 1.6 million men and women who serve in the reserve forces of the United States are more important to our national security interests today than reserves have been at any time in the nation's peacetime history. As we enter the decade of the 1990s, budgetary constraints and rapidly changing political developments around the world make it imperative that we continue the successful integration of reserve and active forces to carry out U.S. security objectives.

By any reasonable standard, the general capabilities of National Guard and reserve units have improved substantially in the last decade. There have been several contributing factors. First, the quality of the personnel who serve in the reserve forces is at an all-time high. Last year, 92 percent of the enlisted accessions into the National Guard and reserves were high school graduates, and 95 percent scored "average" or better on the Armed Forces Qualification Test. Second, the training of each National Guard and reserve unit has been tied to the wartime mission of the unit, and the units have been held to the same performance standards and readiness criteria as active force units. Developments in training technology, meaningful overseas training opportunities, other training initiatives that maximize the limited time available to reservists to train, and the high degree of professionalism among reserve unit leaders all have contributed to the improved readiness condition of most reserve units. Third, increased appropriations in the 1980s and policy initiatives by the Department of Defense have permitted the distribution to reserve units of substantial amounts of modern equipment.

As potential threats to the United States change, National Guard and reserve units are likely to become more important. Early-deploying reserve units will continue to offer particularly valuable capabilities. For example, the law permits the President to call up to 200,000 members of the Selected Reserve to active duty without a declaration of national emergency. In a period of limited resources, the challenge will be to ensure that National Guard and reserve units are given adequate resources to perform their increasing responsibilities. This translates into requirements not only for equipment, but also for full-time support personnel (Table 6), training, and other needs.

Quality-of-Life Programs

Although compensation is critical to retention, many service members choose to remain in the military in part due to the nonsalary benefits it provides. These "quality-of-life" factors have become a key retention tool in the all-volunteer force.

The Department of Defense fully supports morale, welfare, and recreation (MWR) programs, education programs for military dependents, and family support services. MWR programs are a major contributor to community life on military installations throughout the world, providing a wide range of social, recreational, and personal development activities to approximately eight million patrons. As the Department searches for ways to conduct MWR programs with

Full-Time Support Personnel[a] (End Strength In Thousands)

Table 6

	Actual		Planned	
	FY 1988	FY 1989	FY 1990	FY 1991
Army National Guard	33.0	55.5	55.6	56.1
Army Reserve	17.0	27.7	27.9	28.4
Naval Reserve	20.8	32.0	33.1	33.9
Marine Corps Reserve	4.8	7.7	7.6	7.7
Air National Guard	25.8	34.2	34.8	34.7
Air Force Reserve	11.9	15.3	15.9	15.7
Total	**113.3**	**172.4**	**174.9**	**176.5**
Percent of Selected Reserve	13.1	14.7	14.9	14.9

[a] Includes active guard and reserve, military technicians, active component, and civil service personnel.

constrained resources, the challenge is to make revenue-generating activities more reliant on their own incomes.

Dependent education is another important area in which we must maximize the benefits obtained from constrained resources. Students in DoD schools have scored above the national norm on basic skill tests and at or above the national average on college entrance exams. During the past eight years, enrollment in the Department's overseas schools for dependents has grown by nearly 20 percent, challenging our ability to maintain these high standards.

Along with MWR and dependent education, family support services are essential to a balanced and meaningful quality-of-life program. Examples include family advocacy programs, which address family violence; relocation programs, which ease the stress and strain of permanent changes of station on service families; and child care.

One of the Department's greatest family-support challenges is to meet the needs of its military and civilian personnel for high-quality child care at affordable prices. DoD has made progress in this program: some 1,600 new family day-care homes, providing care for over 12,000 more children, were certified between FY 1987 and FY 1988. Additionally, as new construction projects were completed and services expanded, 5,000 more children were accommodated in child development centers. Private financing is being pursued as a means of increasing capacity at these facilities, and DoD is working to raise child care standards. The Department's primary needs now are to replace inadequate, unsafe facilities and to build new ones to help meet substantial needs.

Readiness

Readiness for combat is a primary objective of peacetime training operations. Our forces must be manned, equipped, and trained to fight whenever they are called on to do so. Unless they are ready for combat, their sophisticated weaponry is of little value and deterrence becomes a hollow concept.

The readiness of a force to carry out its assigned missions is more than the sum total of the skills of its individual members. Readiness represents the culmination of the training of crews and units on their designated equipment and with their assigned weapon systems. The constant honing of teamwork skills, from carrier battle group operations to tank platoon maneuvers, is the key to readiness.

Operating tempos — ground vehicle miles, ship steaming days, and aircraft flying hours — are one of the yardsticks used to measure the training opportunities available to military personnel. Although increased operating tempos do not translate automatically into increased readiness, there is no doubt that without adequate levels of operation,

readiness deteriorates. The Department of Defense will maintain operating tempos at the levels needed to ensure ready forces. These numbers are reflected in Table 7.

To overcome certain personnel deficiencies in readiness for mobilization, the Department has taken steps to update its data bases, reorganize responsibilities for the land defense of the continental United States, improve mobilization exercises and include in them civilian mobilization, improve management of the Individual Ready Reserve, increase familiarity with plans for evacuating noncombatants from combat zones, enhance planning for the use of military retirees in wartime, and improve international mobilization planning capabilities with U.S. allies.

Goldwater-Nichols DoD Reorganization Act

Title IV of the Goldwater-Nichols Department of Defense Reorganization Act of 1986 mandated extensive improvements in the area of joint officer personnel management.

During the past year, the Department has made significant progress in implementing Title IV. It continues to devote considerable effort to the identification of appropriate policies and procedures for effecting the changes called for by the act.

These efforts focus on eight areas:

- Service policy and procedures for selecting joint specialty officers and other officers serving in joint duty assignments;
- Revised definitions for dual-hat and cross-Department joint duty assignments;
- Criteria for designating jointly manned activities;

Operating Tempos

Table 7

	FY 1989	FY 1990[a]	FY 1991[a]
Flying Hours/Crew/Month			
Army Combat Forces	14.6	15.0	14.5
Army Reserve	8.0	8.0	8.0
Army National Guard	9.0	9.0	9.0
Navy/Marine TacAir/ASW	25.0	25.0	25.0
USNR/MCR TacAir/ASW	11.0	11.0	11.0
Air Force TacAir	19.3	19.5	19.5
ANG TacAir	11.0	11.0	11.0
AFR TacAir	11.0	11.0	11.0
Air Force Airlift	31.0	30.1	30.2
ANG Airlift	15.0	15.0	15.0
AFR Airlift	15.0	15.0	15.0
Air Force Strategic	18.2	17.7	17.6
ANG Strategic	16.0	16.0	16.0
AFR Strategic	16.0	16.0	16.0
Navy Steaming Days/Quarter			
Deployed Fleets	52.5	50.5	50.5
Non-deployed Fleets	27.5	29.0	29.0
USNR Non-deployed Fleets	21.0	21.0	21.0
Army Ground Miles/Year	820	800	800
Army Reserve	200	200	200
Army National Guard	288	288	288

[a] Requested

- Policies for awarding credit for joint tour completion;
- Procedures for securing early release from joint assignments;
- Policies addressing the required fill rates for joint duty billets;
- Promulgation of tour lengths of three years for field-grade officers and two years for general and flag officers; and
- Policies and procedures for updating the Joint Duty Assignment List.

A list containing 8,623 joint duty assignments has been published; some 1,024 billets on the list are designated as "critical assignments," to be filled by officers who have been awarded the joint specialty. To assist in managing the list, and to facilitate implementation of the career oversight and reporting requirements entailed in the Goldwater-Nichols Act, the Department has developed a Joint Duty Assignment Management Information System. Finally, it has conducted extensive reviews of joint education opportunities.

A detailed summary of DoD's progress in implementing the provisions of Title IV of the Goldwater-Nichols Act is provided in Appendix D.

Medical Services and Readiness

The Military Health Services System (MHSS) has a dual mission: to maintain medical wartime readiness and to provide a comprehensive peacetime health benefit to the United States' nine million active-duty service personnel, their dependents, retirees, and survivors. The Administration places high priority on improving the Department's performance of this dual health mission.

The peacetime health mission consists of two parts: a "direct care" side, which provides health care to beneficiaries in military medical facilities; and the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS), a cost-sharing system for care delivered by civilian health providers to eligible beneficiaries.

The direct care system comprises more than 800 medical and dental treatment facilities, including 168 hospitals, at military installations around the world. These are staffed by a force of health professionals, including almost 45,000 active-duty military personnel. DoD's military treatment facilities (MTFs) handle one million admissions and 50 million outpatient visits a year, making DoD the world's largest health care delivery system. CHAMPUS currently pays for about 30 percent of the care provided to DoD beneficiaries, also making DoD one of the largest buyers of health care in the civilian market.

The issues of health care quality, cost, and access pose great challenges to the Department of Defense. The cost of DoD health operations is growing by about 10 percent annually, while the overall DoD budget is declining in real terms.

Several issues require special attention:

- More care for the military community is moving from military treatment facilities to the higher-cost civilian sector (CHAMPUS), due in part to personnel shortages and management practices ill-suited to maximizing effective use of local resources and the potential of individual facilities.
- In general, it costs more for DoD to purchase care in the civilian sector than to provide it in military facilities, and the costs have been less controllable in the private sector than in the military medical structure. The Department needs to evaluate the combination of services that will enable it to maximize the value obtained from health care expenditures.
- Medical readiness, a critical element of U.S. warfighting capability and the primary mission of the military medical services, needs significant improvement. While progress has been achieved through special bonuses to health professionals with skills needed in wartime and through the purchase of deployable medical equipment, much remains to be done. Special emphasis must be given to the recruitment, training, and retention of key medical personnel and to adequate health care planning.

INDUSTRIAL BASE

A robust industrial base is essential to sustaining the might of the nation's defenses. The United States is strong militarily largely because it has had the resources, sophisticated manufacturing capability, and highly educated citizenry that it can call upon in times of emergency.

There are several key indicators, however, that provide evidence that the industrial base may be in trouble. The United States' share of the world machine-tool market, for example, is now less than half the 1980 level. During the past 17 years, U.S. firms have lost two-thirds of the domestic market for machining centers. A look at aggregate economic indicators also shows that the United States is losing ground when compared with other industrialized countries. For example, during the first half of the 1980s, the U.S. rate of growth in productivity was 3.5 percent, compared to almost 6.5 percent for Japan. In addition, the U.S. share of worldwide trade in manufactured goods has declined, while the sale of foreign goods in the United States has increased.

Furthermore, a series of major studies since the Packard Commission report have documented an alarming erosion in the U.S. defense industrial base. The following items were identified as reasons for concern:

- A decline in the overall number of defense suppliers;
- Accelerating penetration of foreign goods into U.S. markets and a growing dependency on foreign sources for vital components and subassemblies; and
- Decreasing returns on fixed assets, declining capital investments, and lagging productivity in key defense sectors.

If these trends continue unabated, they will jeopardize U.S. security.

At the heart of the problem is America's competitive strength. This is a highly complex issue, involving many factors beyond the reach or responsibility of any Defense Department policy or program. Exchange rates, tax policy, the cost of capital, labor-management relations, and industry's willingness to plan for long-term profitable growth instead of short-term profits all affect the competitiveness of American-made products. In addition, the trade policies of other countries can undermine domestic industries if they aim at gaining a market share in the United States by dumping goods at unreasonably low prices. The Department of Defense will cooperate with the government agencies that have responsibility for economic matters in the effort to improve America's economic strength.

To help U.S. manufacturers regain their competitive edge, DoD has outlined a strategy with six major strategic thrusts:

- Forging the right relationship with industry;
- Improving the acquisition system;
- Ensuring that industrial base issues important to our defense benefit from the full spectrum of potential policy remedies, when appropriate;
- Establishing defense industrial strategic plans that support military strategic plans;
- Developing manufacturing capabilities concurrently with development of weapon systems; and
- Laying the foundation now for the technical skill base required for tomorrow's defense needs.

With regard to defense production, the Department of Defense has two programs for improving productivity. One is the Manufacturing Technology (or "ManTech") program. Its primary goal is to improve the productivity and responsiveness of the defense industrial base by funding largely private-sector research efforts to develop advanced manufacturing technologies.

The Industrial Modernization Incentives Program (IMIP) is the other vehicle used by DoD to help defense contractors boost productivity. Unlike ManTech, which focuses on the development of new manufacturing processes, IMIP concentrates on modernization efforts that improve the productivity of existing facilities.

The Department has undertaken a variety of initiatives that are focusing greater attention on improving quality and productivity. It is working with its contractors to build a productive partnership to maintain the strength of the armed forces. Correcting the erosion of the U.S. industrial base will require the sustained attention of both DoD and private industry. The men and women in the Department depend on U.S. industry for the

equipment they need to perform their missions. Government and industry share the responsibility to provide it.

The Department of Defense maintains plans to mobilize in incremental steps to permit the President and the Secretary of Defense to respond to early warning in a deliberate and timely manner and proceed with modulated responses to deter, mitigate, or recover from a crisis. This permits military forces and the defense industrial base to implement preplanned, graduated mobilization steps that are responsive to a wide range of national security threats and warning indicators.

ENVIRONMENT

Environmental issues are the subject of intense concern among leaders throughout our society and the world. The Administration is committed to protecting the environment, and the Department of Defense not only promotes, but seeks to be a leader in, environmental compliance and protection. Consistent with that aim, DoD is working to incorporate an environmental ethic into all defense activities.

Two primary objectives underlie this effort: protecting long-term access to the air, land, and water needed to sustain mission capability, and enhancing the quality of life and the environment. Toward those ends, the Department of Defense has established six specific goals:

- Performing environmental impact analyses and conducting environmental planning early in the acquisition process;
- Identifying resources to meet environmental requirements using established programming and budgeting procedures;
- Maintaining internal communication programs that ensure DoD leaders and managers are aware of environmental requirements and external programs that provide communities information on DoD's environmental activities and compliance efforts;
- Minimizing pollutants from DoD installations and operations worldwide;
- Maintaining feedback systems that ensure each organizational level has sufficient information to comply with DoD environmental requirements; and
- Implementing management procedures that ensure the Department has the right people at the right place with the right training.

These goals will not be easy to achieve. Success will depend primarily on a multifaceted effort focusing on seven critical elements: cultural change, compliance, people, budget, training, communications/public affairs, and improving relations with regulatory agencies.

Major actions already under way include an extensive audit of environmental compliance. Some 900 installations have been surveyed to date, and more than 8,000 potentially contaminated sites have been identified. Another 7,000 sites on formerly used DoD properties are being reviewed. The Department seeks to correct all of these problems, but those that pose the greatest risk to public health and the environment must receive priority for cleanup. The Department also is working to reduce the use of hazardous materials and avoid the generation of hazardous waste, as part of an ongoing effort to achieve significant reductions in hazardous waste generation by 1992. Continued emphasis in all other areas, such as air, water, and toxic substances, will enhance our total posture and reaffirm our resolve to serve as a model of compliance within the regulated community.

Environmental protection is an important part of the defense mission. As steward of nearly 25 million acres of public lands and billions of dollars worth of facilities, the Department of Defense has a responsibility to conserve and restore the natural resources entrusted to it.

Part IV
Defense Components

DEFENSE COMPONENTS INTRODUCTION

The highest priority of the Department of Defense is deterrence of war and the maintenance of U.S. freedom. Should deterrence fail, United States military forces must be structured, deployed, and ready to provide the President in time of crisis a variety of flexible response options which enable control of escalation and termination of conflict on favorable terms. These forces must provide capabilities across the entire spectrum of challenges to national security — from global war to low-intensity conflict.

Readiness, modernization, and balance are three vital concerns which the Department addressed in all the defense component programs. Readiness remains a high priority because ready forces are a prerequisite to deterrence. Critical to readiness is the well-being of our uniformed personnel. United States forces must be highly trained, fully equipped, and well-led if they are to act quickly and effectively in performing their missions. Recent events in Panama, the U.S. Virgin Islands, and the Andean countries underscore the critical role that ready forces play. All of our forces — forward deployed and CONUS based, active and reserve — must be prepared to execute their missions in the required time.

Modernization is a continuous process that involves not just equipment but constant reassessments of and adjustments in doctrine, force structure, and training. In upgrading our equipment, we seek to improve the combat effectiveness of our forces, within budget constraints, by providing modern equipment to the units who would be first to fight. Our programs are designed to increase the lethality and survivability of our forces, while limiting the disruptions in training and readiness that often accompany the introduction of new equipment. Currently, the Department has important initiatives in progress that are essential to the modernization of our forces — from weapon systems to command, control, communications, and intelligence (C^3I) programs.

Finally, the Department has endeavored to achieve a balanced mix of active and reserve forces which helps hold down costs while maintaining strength.

NUCLEAR FORCES AND STRATEGIC DEFENSE

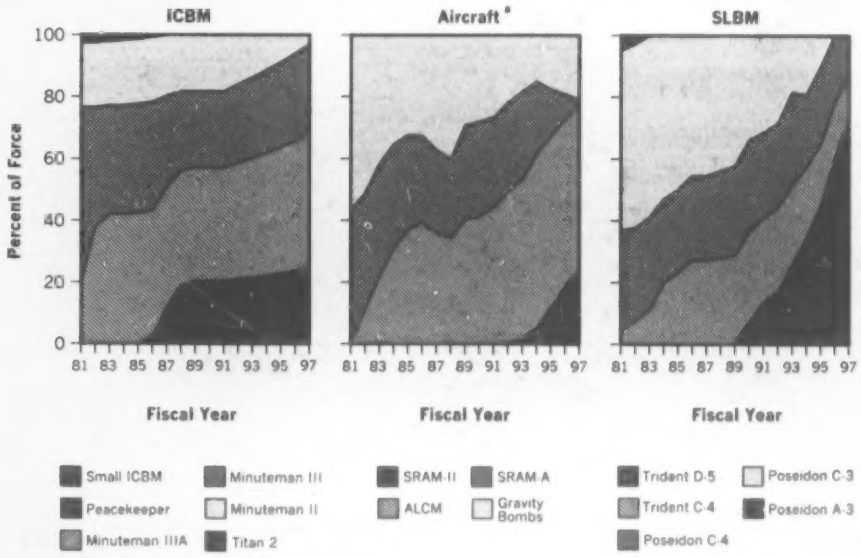
Nuclear Deterrence Policy

Nuclear weapons have played a crucial role in U.S. national strategy for more than 40 years, and they will continue to do so. In addition to deterring nuclear war, these systems contribute to deterrence of conventional aggression against the United States and its allies.

The United States maintains nuclear forces that are capable of retaliating effectively against the Soviet leadership's most valued assets. To perform their mission, U.S. nuclear forces must not only be able to survive an initial attack; they must have sufficient accuracy and yield to deliver an effective retaliatory response, and they must have effective modes of delivery and effective systems for command and control.

Strategic Offensive Force Structure
(Inventory of Warheads)

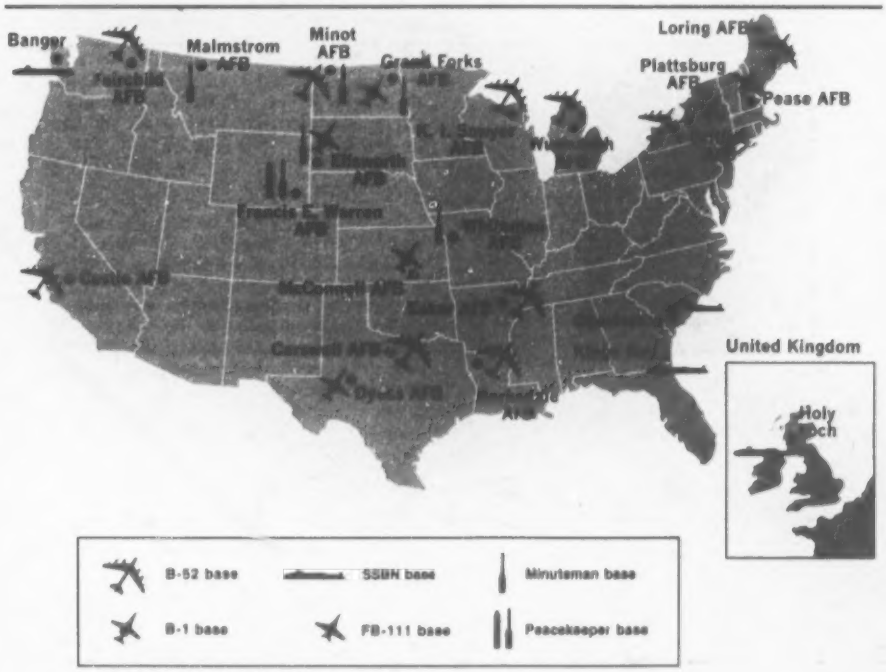
Chart 6



[a] Represents weapons which could be loaded on all operational bombers. Does not represent the loading that would be used under a START agreement.

The Soviet strategic nuclear force posture remains strong. The Soviet Union is expected to continue pursuing a vigorous modernization program even after the U.S. and U.S.S.R. conclude a strategic arms reduction treaty. Today, the Soviet Union is fielding simultaneously two new intercontinental ballistic missiles (ICBMs) and a modernized variant of the SS-18, two strategic submarines and their associated submarine-launched ballistic missiles (SLBMs), and two new bombers. The Soviets also have pursued aggressively a decade-long program of nonstrategic nuclear modernization that includes missiles and artillery systems, as well as sea-based systems. The Soviet leadership continues to emphasize survivability and endurance in a nuclear war, as evidenced by the ongoing construction of deep underground command centers. The modernization and expansion of Soviet air defense and ABM systems also continue. To meet the strategic challenge posed by these modernized Soviet nuclear forces, the United States must continue to maintain a robust and credible U.S. nuclear deterrent.

Locations of U.S. Strategic Offensive Forces Chart 7



Note: The B-52 squadrons at Loring AFB and one squadron at Barksdale AFB were assigned a conventional bomber role.

The Requirements of Flexible Response

To keep the flexible response strategy truly effective, the President must have a wide range of retaliatory options, including nuclear ones. To help deter both conventional and limited nuclear attack, and to fulfill alliance commitments, the United States must have a range of militarily effective, but nevertheless discrete and recognizable, nuclear responses. These response options, which involve both strategic and nonstrategic forces, give us the ability to impose significant penalties on an aggressor and limit his ability to continue an attack. At the same time, the intent of these options is fundamentally political: to convince the enemy leadership that it has gravely miscalculated our resolve, that we possess substantial military capability to inflict further harm, and that it is in the enemy's interest to halt its aggression and withdraw.

The Strategic Modernization Program

The Land-Based Missile Force.

The Administration's approach to modernizing the U.S. ICBM force calls for a two-phased effort. For the near term, the Department seeks to rebase 50 silo-based Peacekeeper missiles on railroad cars. The Peacekeeper is a proven asset which, due to its high accuracy, can hold at risk nearly all of the hardest Soviet targets. By removing these missiles from their silos and placing them on specially configured railroad cars, the United States can, in the shortest possible time and for the least amount of money, improve the survivability of its ICBM force. The survivability and flexibility created by rail basing will greatly strengthen deterrence by complicating the Soviets' ability to attack these missiles, thereby reducing their confidence in being able to strike our forces successfully.

The United States also is proceeding with research and development of the new small ICBM (SICBM). This lightweight, road-mobile, single-weapon missile has the ability to move rapidly in response to attack warning. Its high degree of resistance to the effects of even a nearby nuclear explosion makes it a highly survivable weapon.

The Strategic Submarine Force.

The modernization of our strategic submarine force is replacing aging boats with more capable vessels and strengthening the overall contribution of the force to nuclear deterrence.

The U.S. sea-based strategic nuclear deterrent currently consists of 11 Lafayette-class fleet ballistic missile submarines (SSBNs) carrying the Poseidon C-3 missile, 12 Lafayette-class SSBNs carrying the Trident I C-4 missile, and eight Ohio-class SSBNs carrying the Trident I missile. Additionally, one Ohio-class SSBN will soon be armed with the new Trident II D-5 missile. To maintain a sufficient number of SSBNs in active service as aging boats retire, the Department continues to build Ohio-class SSBNs. Nine of these boats are already operational, and eight others are in various stages of construction.

The Trident II D-5 SLBM will represent a highly significant addition to our deterrent arsenal. It combines the survivability and endurance qualities traditionally associated with the SLBM force with the capability to retaliate quickly against nearly all of the hardest Soviet targets. The Trident II enhances deterrence by diminishing the value to the Soviets of seeking to attack our ICBMs and bombers, since the United States would retain the ability with SLBMs to strike the spectrum of Soviet targets effectively, even under the worst of circumstances.

The Strategic Bomber Force.

The revolutionary B-2 bomber successfully completed several test flights in 1989. Since the B-2 is a manned aircraft, it is a flexible weapon that can be recalled or retargeted after launch. It also has direct tactical applications in conventional war scenarios. The combination of the B-2, the B-1B and cruise-missile-equipped B-52s forces the Soviet air defense system to confront both standoff and penetrating weapons from all directions.

Command and Control.

The vital Milstar satellite system will, among other things, provide survivable and endurable communications support for the President and Secretary of Defense in the event of a nuclear attack. The system is designed to support command and control functions against any level of jamming and during nuclear exchanges.

Nonstrategic Nuclear Modernization Program

As noted at the May 1989 NATO summit, nonstrategic nuclear forces provide an essential political and military link between conventional and strategic nuclear forces and between the

European and North American members of the alliance. They ensure that there are no circumstances under which a potential aggressor might discount the prospect of nuclear retaliation in response to an attack; thus, they provide an essential contribution to deterrence.

The NATO heads of state also reaffirmed at the summit the importance of a deterrence strategy based on an appropriate mix of adequate, effective, and modern conventional and nuclear forces. They further stated that land-, sea-, and air-based systems, including ground-based missiles, are needed in Europe now and for the foreseeable future.

Consequently, to ensure that we have a credible nonstrategic nuclear deterrent force into the 21st century, the United States is continuing development of two new missile systems — the ground-launched Follow-On to Lance (FOTL) and the Short-Range Attack Missile-Tactical (SRAM-T). The FOTL, which is intended to replace the aging Lance system, will possess greater range, mission flexibility, and survivability than its predecessor, while permitting much more efficient utilization of personnel. The SRAM-T, a stand-off weapon, will extend the effective range of U.S. and NATO dual-capable aircraft, permitting them to attack high-value targets without being exposed to terminal air defenses. Deployment of the FOTL and SRAM-T would contribute significantly to maintaining a credible and effective nuclear deterrent.

The United States also is continuing to modernize its other nonstrategic nuclear forces, including artillery-fired atomic projectiles, dual-capable aircraft, nuclear gravity bombs, and the nuclear version of the Tomahawk sea-launched cruise missile.

Strategic Defense

Strategic defenses encompass those systems that protect U.S. territory from nuclear attack or coercion. At present, these systems serve primarily a warning function. The Defense Support Program, the Ballistic Missile Early Warning System (BMEWS), PAVE PAWS radars, and the Nuclear Detonation Detection System would warn and assess the magnitude of an ICBM or SLBM attack. The North Warning System, the Over-the-Horizon Backscatter Radar network, and the Distant Early Warning Line would provide notice of a bomber attack. Ground-based deep-space surveillance systems and space surveillance radars monitor U.S. and Soviet space assets. With the exception of a relatively small force of active and reserve air defense fighters, the United States has no operational means of defending against a strategic nuclear attack.

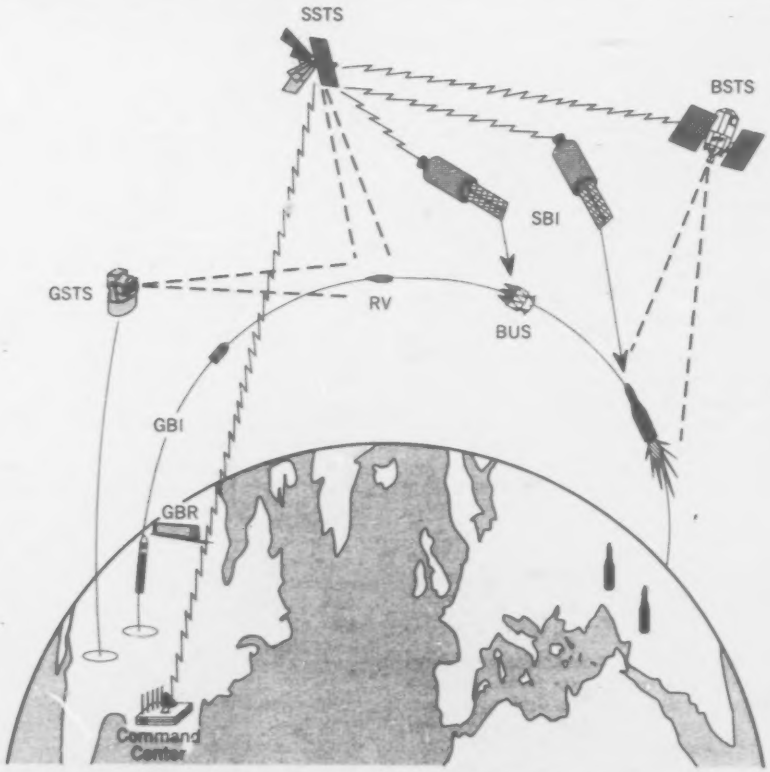
Numerous technologies are envisioned for the future that could help rectify this situation. The most promising lie within the purview of the Strategic Defense Initiative (SDI). The technology development programs being pursued under SDI are needed to respond to new challenges and take advantage of emerging technologies. Such research will provide us the opportunity to strengthen deterrence by making a fundamental change from our traditional offensive orientation to a greater reliance on defensive systems.

While the basic missions of strategic nuclear offensive forces have remained fundamentally constant over the last 40 years, capabilities have changed dramatically over time in response to changes in technology, policy, and the Soviet threat. Until the early 1960s, the United States relied on its massive strategic superiority, including a substantial commitment to air defense, to deter, and if necessary, defeat a Soviet attack on the United States or its allies. However, as Soviet nuclear capabilities grew in the late 1950s and early 1960s, the threat of massive retaliation lost credibility. The United States then shifted to a strategy of flexible response.

The increasing importance of ballistic missiles in the Soviet arsenal of the late 1960s meant that air defenses would be increasingly ineffective in limiting damage from an attack. In 1972, the United States and the Soviet Union signed the Anti-Ballistic Missile (ABM) Treaty. This country developed and deployed a limited ballistic missile defense for a brief time and then dismantled it. Subsequently, we made little effort to defend against Soviet strategic nuclear attack, and the U.S. strategic defense program became focused primarily on providing warning of attack. U.S. efforts basically were confined to passive defensive measures, such as hardening of ICBM silos and critical command and control facilities, posturing of bombers and ballistic missile submarines to increase their survivability, and providing for continuity of governmental operations.

Interim SDS Phase One Architecture Concept

Chart 8



Symbols & Abbreviations:

Communication Lines
Sensing Lines
Interception Lines
BSTS - Boost Surveillance and Tracking System
SSTS - Space-Based Surveillance and Tracking System
GSTS - Ground-Based Surveillance and Tracking System
GBR - Ground-Based Radar
SBI - Space-Based Interceptor
GBI - Ground-Based Interceptor
RV - Reentry Vehicle

During this same period, the Soviet Union took a very different approach, and today, modernizing Soviet strategic nuclear offensive forces are structured to emphasize their ability to strike U.S. forces. To limit damage from the U.S. weapons they could not destroy in a counterforce attack, the Soviets emphasized defenses. As a result, the Soviet Union currently has a very extensive air defense network, and it deploys an ABM system around Moscow. The Soviets have long maintained an aggressive program to develop advanced defenses against ballistic missiles, and they continue to invest heavily in passive defenses.

In the 1980s, building on an ongoing R&D program, the United States began reexamining the potential role of defenses, establishing the Strategic Defense Initiative Organization to conduct a broadly based R&D effort to determine the feasibility of effective ballistic missile defenses.

The Department of Defense plans to pursue aggressively options for layered defenses that include both ground- and space-based elements. The program emphasizes flexibility as we progress towards deployment of a system that meets the requirements of a first phase Strategic Defense System (SDS) as defined by the Joint Chiefs of Staff. Pursuit of a robust SDI program also will provide an effective hedge against any near-term Soviet decision to expand rapidly its antiballistic missile capability beyond that allowed by the ABM Treaty. Nonetheless, the U.S. strategic defense program will be conducted in compliance with U.S. legal obligations, including the ABM Treaty.

The SDI program now has completed over 400 tests and experiments, including the miniaturization of component technologies and a vast reduction in unit costs. If planned experiments yield the results that appear likely, the SDI program should soon demonstrate its ability to contribute significantly to deterrence. With the emphasis on developing defensive technologies and reducing costs, initial deployment of SDI could begin by the turn of the century.

The new technologies being investigated under SDI could provide the United States with the capability to enhance deterrence significantly, not only against Soviet strategic attack but also attacks of other countries that may develop their own missiles armed with nuclear and chemical warheads. The SDI program has enjoyed significant achievements in proving the feasibility of effective defenses.

LAND FORCES

The land forces of the United States are trained, equipped, and organized to deter war and protect vital U.S. interests around the world. Consisting of Army and Marine Corps units (less tactical aviation elements), these forces are essential to our defense. Through strength and readiness, they help persuade potential aggressors that resorting to armed conflict would not produce the aggressors' desired ends. Should deterrence fail, land forces provide unique warfighting capabilities that would be essential to restoration of peace on terms that preserve U.S. security and protect national interests. Their capabilities include defending and seizing vital land areas and conducting prompt and sustained land campaigns to achieve national military objectives. In peacetime and war, vigilant soldiers and Marines are persuasive symbols of the nation's strength and of its ability and willingness to meet global commitments. Operation Just Cause in Panama, which defended Americans, protected the Panama Canal, restored democracy, and brought Manuel Noriega to justice, showed the critical importance of highly trained and fully ready land forces.

Because the United States' security interests are linked to those of allied and other friendly nations, our forces must be prepared to counter threats on a global basis. These threats persist as developing nations gain increasingly deadly military capabilities, and as the Soviets continue to improve their forces through programmatic equipment modernization. Although proposals for conventional force reductions in Europe should hold great promise, we must ensure that our forces remain capable of countering Soviet and Eastern European military capabilities as they currently exist. In addition to the Department's traditional mission of defending against conventional attacks, U.S. land forces must maintain the capability to conduct contingency operations, cope with low-intensity conflicts, and deal with terrorism and illegal drug activities. Also, given the attractiveness of chemical weapons to Third World countries, the United States must be able to deter the use of chemical weapons against our forces through a strong chemical defense capability and a credible chemical retaliatory capability.

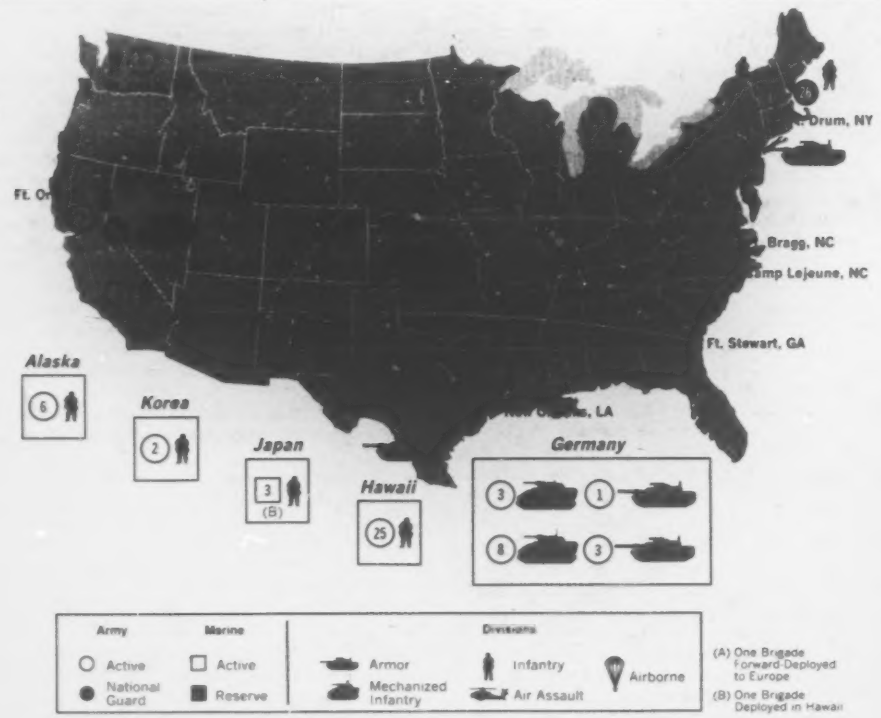
To meet these wide-ranging requirements, the United States needs a mix of ground forces that are trained to respond to a variety of needs. Heavy forces provide the only counter to the massive armored forces that the Soviet Union and others can field. Additionally, similar forces may be needed in some areas of the Third World where potentially hostile countries have acquired increasingly sophisticated and lethal conventional and chemical/biological weapons. Light forces can be moved rapidly to trouble spots. Special operations forces are specially designed, equipped, and trained to perform their designated missions. Forward-based forces add to our deterrent strength and give us the ability to respond immediately to events, while forces stationed in the continental United States (CONUS) give us the flexibility to deploy to conflict regions as needed. Active forces provide immediate-response capabilities and flexibility, while the reserves permit the time-phased expansion of military strength to meet the requirements of sustained combat. Each of these force elements must be continuously tailored to support the evolving security requirements of the United States.

Seven critical requirements guide decisions on the land force structure:

- Forward defense through forward presence, by which we complement allied forces in deterring threats to our vital interests.
- CONUS-based forces, to reinforce our forward-deployed units should deterrence fail.
- Rapid deployment capabilities, to protect U.S. interests in regions where U.S. forces are not routinely stationed.
- Combat support and combat service support capabilities, to sustain our combat forces.
- A balanced mix of active and reserve forces, to help hold down costs while maintaining strength.
- Prepositioning of high-priority equipment and supplies ashore and afloat in areas of critical interest.
- Sufficient stocks of war-reserve equipment and supplies to sustain deployed forces until a mobilized production base can meet wartime demands.

About half of the Army's combat forces are in the active component. The bulk of the combat support and combat service support units are in the reserves. The Army's active component contains 18 divisions. The reserve component includes 10 divisions with seven brigades and five

Deployment of U.S. Divisions Chart 9



battalions that are used to round out nine of the active divisions. The Marine Corps maintains three active divisions and associated support elements for use in three Marine Expeditionary Forces, along with one reserve division and their support elements to augment those forces in wartime. Marine land and tactical aviation forces organized in Marine air-ground task forces (MAGTF) provide a unique and valuable defense capability.

The land force programs included in the FY 1991 budget will provide a force structure that enables us to carry out successfully the requirements of our national security strategy, now and in the foreseeable future. The Department endeavors to do more with less in this constrained fiscal environment.

Army and Marine Division Structure

Table 8

	Heavy[a]	Light[b]	Total
Active Army Divisions			
Fully Active	4	5	9
Roundout (Battalion)	2	—	2
Roundout (Brigade)	4	3	7
Army National Guard	4	6	10
Active Marine Corps	—	3	3
Reserve Marine Corps	—	1	1
Total	**14**	**18**	**32**
Nondivisional Maneuver Brigades/Regiments[c]			
Active Army	6	2	8
Army Reserve Components	9	9	18
Total	**15**	**11**	**26**

[a] Armored, mechanized.

[b] Marine forces, and Army infantry, air assault, airborne, light infantry, and motorized divisions.

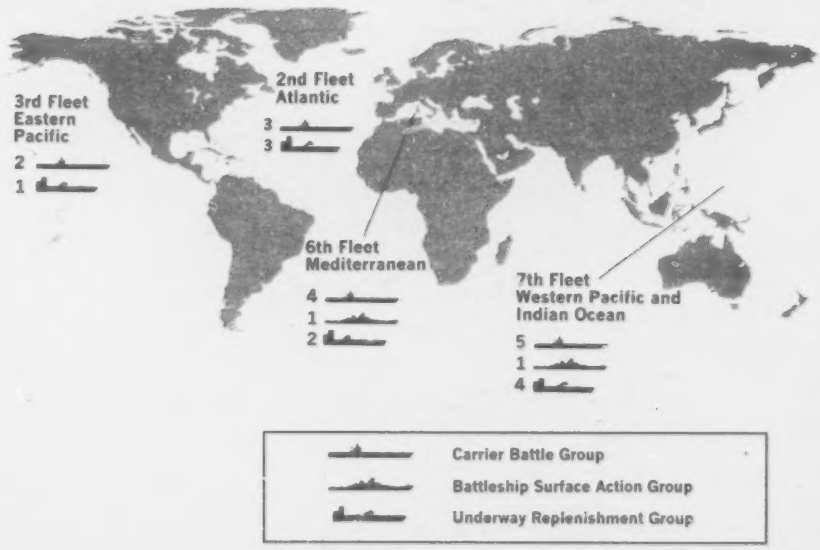
[c] These units have not been assigned a roundout mission.

NAVAL FORCES

Maritime forces are vitally important to the success of the U.S. defense strategy, which is based on deterrence, forward defense through forward presence, and allied cooperation. Naval forces provide the means to satisfy a great diversity of requirements in support of that strategy.

The structure and operations of the U.S. Navy are critically influenced by global threat assessments. The United States must retain the ability to project power to critical regions of the world to deter would-be aggressors, support the favorable resolution of crises, honor commitments to allies and friends, carry on the fight against illegal drugs, and maintain unimpeded access to the sealanes on which the economic interests of the United States and the rest of the free world depend. U.S. naval forces are especially suited to meeting these commitments. In particular, aircraft carrier battle groups, the core of the U.S. power-projection capability, play a crucial role in the U.S. national security strategy.

Wartime Disposition of U.S. Naval Fleets Chart 10



The threats to our maritime security are considerable. Soviet naval capabilities and the threat that they pose to the United States and its allies remain strong. U.S. forces now face sizable, highly capable Soviet maritime forces. The Soviet Union is continuing to build advanced, multimission submarines, surface ships, and aircraft. Their production lines are turning out blue-water platforms with improved weapon and sensor capabilities.

The Soviet navy has improved its capability to conduct naval warfare with an arsenal of nuclear and conventional weapons launched from ships, submarines, and aircraft, and by land-based forces, assisted by a wide variety of targeting systems, including space-based systems. Examples of recently introduced Soviet military platforms and weapons include the highly sophisticated Akula-class nuclear attack submarine and the new Tbilisi-class large deck carrier. The Soviets also are continuing development of long-range sea-launched cruise missiles, including the SS-N-21 and the SS-NX-24.

To meet these commitments and threats, the Navy requires a mix of forces capable of performing a broad range of missions. The FY 1991 budget bolsters maritime defense capabilities by building on the pillars of readiness, modernization, and force structure, with major programs in the areas of antisubmarine warfare (ASW), power projection, antiair warfare (AAW), mine warfare, and anti-drug efforts.

Antisubmarine warfare is a critical warfighting priority. Of the various threats to the United States' ability to support allies and other interests abroad, Soviet submarine capabilities pose the greatest potential challenge. Against that threat, the Navy employs a layered ASW strategy, in which hostile submarines would be detected and engaged in forward areas and at geographic choke points, before they could threaten U.S. forces or disrupt sea lines of communication.

Four key resources combine to form a web of ASW capability: surveillance systems, attack submarines, maritime patrol aircraft, and surface combatants operating in conjunction with ASW aircraft. Special capabilities in each area, and balance among these areas, are prerequisites for an effective ASW force that can meet the challenge posed by the newer, quieter, and more lethal Soviet submarines.

The most effective defense against threats to maritime forces is to strike as far forward as possible at the aircraft, submarines, and ships that carry antiship missiles. Defending against the missiles themselves is a particularly difficult challenge. As antiship threats proliferate, primarily in the form of cruise missiles, the United States faces the challenge of developing quicker-reaction systems to cope with these threats.

While the Navy's peacetime presence mission requires relatively close proximity to land, the proliferation of ground- and air-launched cruise missiles greatly complicates the fleet's air defense problem. Unlike the submarine threat, which emanates almost exclusively from the Soviet challenge, air threats to U.S. naval task forces and convoys come from an ever-expanding list of nations.

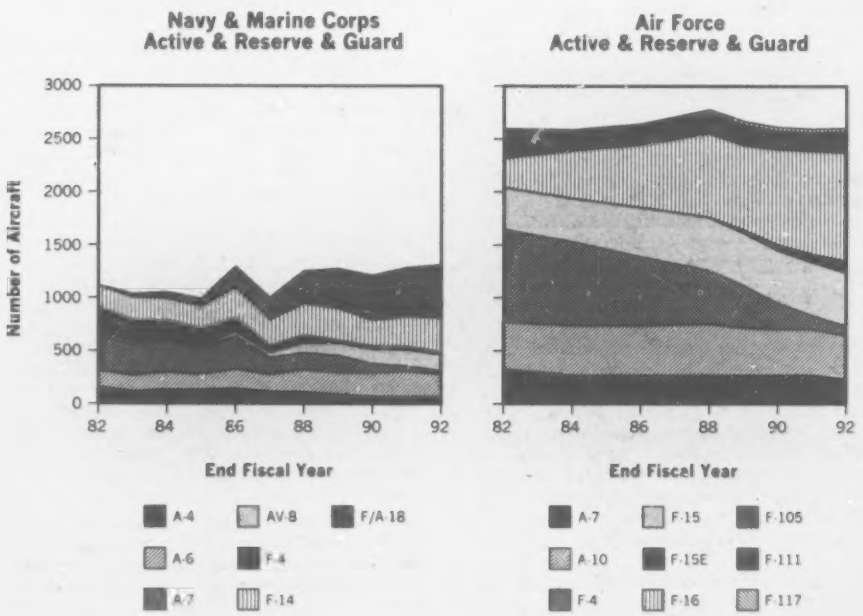
Power-projection forces are increasingly important elements of the U.S. strategy. These sea-based forces — primarily aircraft carrier battle groups and Marine expeditionary forces — provide a highly mobile and flexible deterrent along with warfighting capabilities of vital importance. With a shrinking overseas base network and fewer nations willing to allow U.S. access to their facilities, the ability to project power over extended distances grows more difficult. The capabilities of our maritime power-projection forces have therefore become even more vital to our security.

Because of their mobility, flexibility, and readiness, strong and balanced naval forces will remain absolutely essential to preserving peace and freedom and advancing American interests around the globe.

TACTICAL AIR FORCES

The Department of Defense is fundamentally committed to providing prompt and sustained offensive and defensive air operations in the midst of a dynamic and increasingly sophisticated threat environment. This basic mission today translates into three essential capabilities: (1) the capability to provide air support to land and sea forces, both in a defensive mode to achieve air supremacy and in an offensive mode in direct support of engaged friendly forces; (2) the capability to attack enemy air bases and ground forces beyond the front lines; and (3) the capability to operate independently of fixed or local basing and deployment support.

Tactical Air Force Structure Chart 11



Locations of Air Force Tactical Fighter Wings

Chart 12

Air Force tactical air forces must be capable of fighting both day and night and in adverse weather. The aircraft and weapons they employ must be able to locate and destroy mobile tactical targets as well as fixed targets, such as airfields. In addition, these forces must be able to achieve and maintain air superiority in a dynamic combat environment in order to protect friendly land and sea operations, support air interdiction campaigns, and allow freedom of action to conduct other combat missions.

At present, these needs are fulfilled by F-16, F-15, F-117, F-111, F-4, A-10, and A-7 aircraft in numbers equivalent to more than 36 tactical fighter wings (each equipped with 72 combat aircraft). Six wing-equivalents are dedicated to the close air support mission, seven to air superiority, almost eight to interdiction (including battlefield interdiction), and more than 15 to multiple roles. (Included in this latter category are aircraft capable of either air-to-air or air-to-ground combat, such as the F-16 and F-15E.) The Air Force also operates a significant number of aircraft that are specially equipped to perform reconnaissance, airborne warning and control, tactical air control, electronic combat, air rescue, and other support missions.

Disposition of Navy and Marine Corps Air Wings Chart 13

Note: Chart reflects the nondeployed locations of 13 active and two reserve Navy air wings and three active and one reserve Marine aircraft wings.

Navy tactical air forces also must have day, night, and adverse weather capability. These forces provide direct support for deployed naval surface units as well as a sea-based air attack capability that is not dependent on access to land-based facilities. Naval aviation forces must be able to locate and destroy mobile tactical targets, both at sea and ashore, as well as fixed targets, such as airfields.

To provide these capabilities, the Navy currently maintains 13 active and two reserve carrier air wings. Each wing is composed of a mix of combat and support aircraft. These systems perform the full range of naval tactical air missions: air superiority, surface attack, surveillance, command and control, electronic countermeasures, in-flight refueling, antisubmarine warfare, and search and rescue operations. The composition of the wings varies according to aircraft carrier type, aircraft inventories, and other factors.

The Marine Corps' tactical air forces are an integral part of the Marine Air-Ground Task Force (MAGTF) concept. As such, they provide highly specialized capabilities for direct support of Marine ground elements. Marine tactical aviation forces are structured to perform air superiority, ground attack, electronic combat, and in-flight refueling and other support missions. The Marine Corps emphasizes organic close air support for engaged Marine troops and relies on the Navy for certain other capabilities, such as early warning and control. The Marines maintain three active and one reserve air wings. Their wings are "composite" structures, incorporating a wide range of fixed-wing aircraft as well as attack and transport helicopters.

This current tactical air force structure effectively supports today's defense strategy. Tomorrow's threat environment, however, will be shaped by the unpredictable forces that are defining this period of international transition. The Department will structure, train, and equip our air forces to respond effectively to any future challenge.

Typical Composition of Navy and Marine Corps Air Wings

Table 9

Navy			Marine Corps	
	Number of Aircraft			
Type of Aircraft	Traditional Wing	"Roosevelt" Wing	Type of Aircraft	Number of Aircraft
F-14	24	20	F/A-18	48
F/A-18 (or A-7)	24	20	A-6	20
A-6	10	20	AV-8B	60
KA-6D	4	0	TA-4/OA-4	9
EA-6B	4	5	RF-4 or F/A-18	8
E-2C	4	5	EA-6B	6
S-3	10	10	KC-130	12
SH-3	6	6	CH-46	60
Total	86	86	CH-53	48
			AH-1	24
			UH-1	24
			OV-10	12
			Total	331

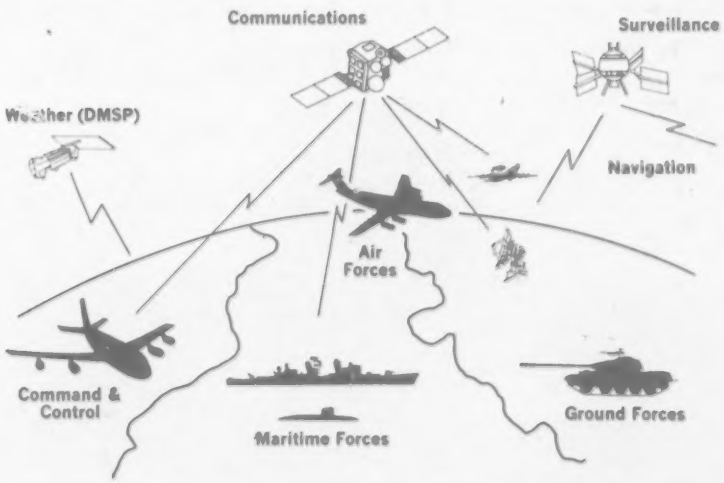
SPACE FORCES

Space long ago joined land, sea, and air as an environment in which the Department of Defense operates. The Department relies heavily on space systems to perform its various functions. Should deterrence fail, these systems would be critical to the defense of the United States and its security interests.

Space systems provide communications, surveillance, and navigation support, as well as meteorological and oceanographic information. They also are essential for treaty compliance monitoring, early warning, and strategic defense. Given the critical roles these systems play in defense missions, the United States must ensure that hostile forces cannot destroy or blind its space assets or deny its use of what has been called "the ultimate high ground."

Recent U.S. and Soviet proposals to reduce nuclear and conventional forces have focused attention on the importance of space systems. The potential for reducing nuclear and conventional armaments, decreasing tensions, and stabilizing relations with the Soviet Union hinges significantly on our ability to verify Soviet compliance with arms agreements and to protect the means by which we do so. Space assets are crucial to an effective verification capability.

Multiple Roles of Space Systems Chart 14



The Department of Defense must develop and maintain space forces that fulfill both service-specific and Department-wide needs. To meet this dual requirement in a period of budgetary restraint, we seek to reduce the cost of our space infrastructure by designing systems that can more directly satisfy the full spectrum of operational requirements.

In light of the critical importance of space forces, the United States is seeking to improve its space launch; command, control, and communications (C^3); and other capabilities useful in control of space, such as an antisatellite capability. We have made considerable progress toward the goal of assured access to space. The return to operational flights of the space shuttle, and the successful launches of all of DoD's operational space boosters in 1988 and 1989 (Atlas, Scout, Delta, and Titan), were major steps in the assured access effort.

In 1989, the Department successfully launched its heaviest unmanned booster, the Titan IV, and a medium-lift vehicle, the Delta II. The Titan IV program is being expanded, both in numbers and in upper-stage capability, to accommodate heavy payloads that have been removed from the shuttle program. This transition was necessary to relieve the overcrowded shuttle manifest, achieve deployment flexibility and replenish high-priority space systems, provide an alternative launch means when orbit inclination requirements could not be satisfied by the shuttle, and reduce the cost of space launches. Progress continues on the Atlas II, which will carry intermediate-class payloads. Additionally, under a restructured Advanced Launch System (ALS) program the Department is investigating new technologies that could substantially reduce the cost of putting spacecraft into orbit in the future.

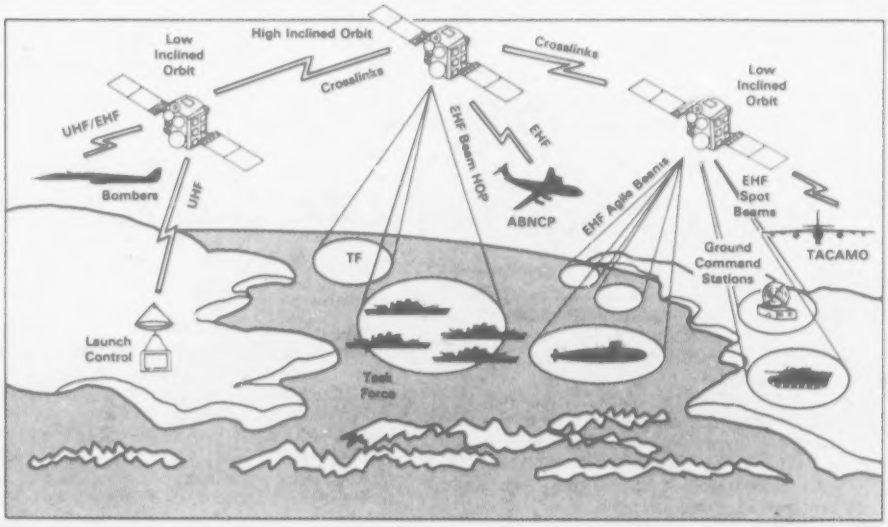
Existing military satellite communications systems are being upgraded and modified to increase their reliability and capacity. These include FLTSATCOM/AFSATCOM, an ultrahigh frequency (UHF) system that supports mobile user requirements, and the superhigh frequency (SHF) Defense Satellite Communications System (DSCS). Of the five operational and two on-orbit spare DSCS satellites, four are DSCS IIIs and three are older DSCS II models. The transition of the full DSCS constellation to the upgraded DSCS III version will be complete in the early 1990s. The new extremely high frequency (EHF) Milstar satellite system will provide survivable and endurable communications links that are highly resistant to jamming and to the effects of nuclear weapons. This constellation is scheduled to go into operation before the turn of the century. Together, these systems will provide secure, survivable, and reliable communications support for our forces, and enable them to operate with NATO and other friendly forces on a global basis.

The NAVSTAR Global Positioning System (GPS), with a primary mission of providing extremely accurate position-locating data to U.S. forces, has moved further toward a fully deployed constellation of satellites. As of December 1989, four operational GPS satellites have been launched, joining the six developmental systems already in space.

During a crisis or conflict current satellite constellations might not be capable of satisfying peak demands simultaneously in various regions of the globe should launch or on-orbit failures occur. Small tactical satellites that incorporate extremely advanced technologies and that could be launched by small vehicles could provide a cost-effective means of quickly augmenting our space force structure. Defense Advanced Research Project Agency's (DARPA's) Advanced Space Technology Program (LIGHTSAT) is investigating the technologies that would be required by such satellites and their support systems.

More immediate improvements in space capability are being provided through the modernization of the satellite control network at the Consolidated Space Test Center (CSTC) at Onizuka Air Force Base, California, and the Consolidated Space Operations Center (CSOC) at Falcon Air Force Base, Colorado. In 1989, the upgraded capabilities offered by these networks were crucial in supporting launches of two classified payloads, two SDI experiments, and the first three Block II GPS spacecraft. Installation also was completed last year of new automated remote tracking stations at Thule Air Base, Greenland; Falcon Air Force Base, Colorado; and Oakhanger Air Base, in the United Kingdom. Additionally, the United States completed the turnover of primary GPS control authority from CSTC to CSOC. Efforts to transfer control of the Defense Support Program, Defense Meteorological Satellite Program, and DoD communication satellites to CSOC continue.

MILSTAR Configuration Chart 15



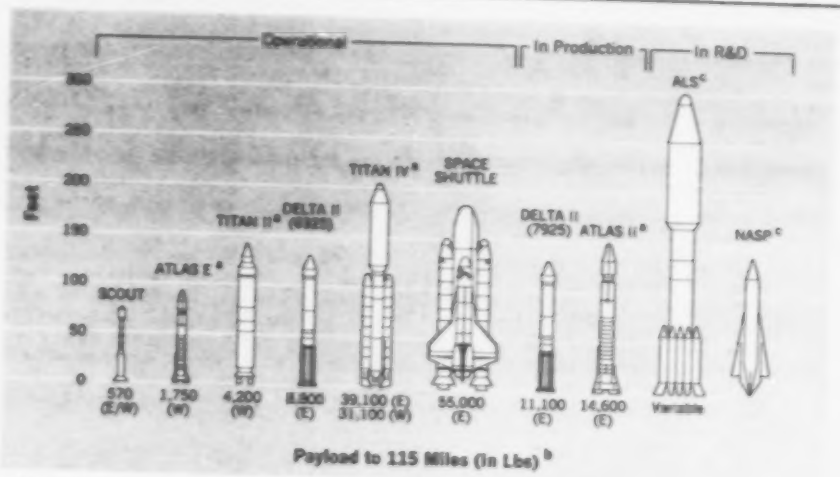
Much remains to be done. In spite of the promise of reduced U.S. and Soviet force levels, trends in Soviet capabilities continue to be a concern. The Soviet space program has grown steadily for several decades. In the 1980s, the Soviets introduced several significant assets, and demonstrated an ability to rapidly reconstitute lost or degraded capabilities in space. With a large and responsive space infrastructure, and a continuing presence in space, the Soviets could simultaneously threaten some U.S. or allied on-orbit assets with their operational antisatellite systems and service their capable fleet of manned and unmanned space platforms.

Other Soviet assets that pose a potential threat to our forces are space-based targeting satellites. These systems, which can track some U.S. and allied naval and land-based forces, could provide precise targeting data in times of crisis or conflict. An ASAT capability would be a vital part of our force posture, contributing substantially to our ability to deter both conventional and nuclear war and to protect our forces, should conflict occur.

Space has become an arena of intense national security interest. The ability of the United States to deter aggression and defend its interests depends vitally on U.S. space programs.

U.S. Space Launch Vehicles

Chart 16



[a] Ballistic Missile Derived
[b] Approximate
[c] Height Approximate
(E) East Coast Launch - Low/Mid inclination
(W) West Coast Launch - Polar inclination

STRATEGIC MOBILITY

The rapid projection of military power to protect security interests around the globe is a vital component of the U.S. defense strategy. In wartime, the United States must be able to reinforce its forward-deployed forces and support allies, while countering threats in other regions important to U.S. security. In peacetime, it must be able to project power and influence in regions of U.S. and allied interest where U.S. forces are not routinely stationed.

U.S. military strategy calls for forward defense through forward presence, and for the rapid projection of combat forces and materiel in times of crisis. The success of that strategy hinges on the capabilities provided by airlift, sealift, and land and afloat prepositioning programs. As the United States adjusts to changing circumstances in Europe and adapts the composition of its forces, strategic mobility must remain a key component of the U.S. defense posture. Strategic mobility will become even more crucial to the protection of U.S. global interests in the future, as the U.S. presence abroad is reduced under negotiated agreements.

In the event of war in Europe, the United States is committed to its NATO partners to augment its forward-deployed forces with six additional Army divisions, 60 additional tactical fighter squadrons, one Marine Expeditionary Brigade, and associated support elements. These forces would have to be delivered to the European theater within 10 days of a decision to mobilize. Further reinforcements would follow. Carrying out a deployment of this scale would require the movement of millions of tons of equipment and materiel, and hundreds of thousands of personnel, across the Atlantic Ocean by air and by sea. To minimize the burden on its mobility resources, the United States stores sizable amounts of equipment, supplies, and munitions in Europe. To cope with threats in other regions of the world, the United States maintains the capability to deploy about five Army divisions, two Marine Expeditionary Forces, associated air and naval forces, and support elements.

Based on these deployment requirements for Europe, the Defense Department has established program goals for the various categories of mobility. The goals include:

- For prepositioning — the storage of POMCUS (Prepositioning of Materiel Configured to Unit Sets) in Europe for six Army divisions, their associated support units, and some of the support units needed by the four forward-deployed U.S. divisions, and one Marine expeditionary brigade;
- For sealift — the capability to move one million tons of equipment in a single sailing; and
- For airlift — the ability to transport 66 million ton miles of cargo per day (MTM/D).

Airlift, in conjunction with prepositioning, would meet the initial movement requirements in a NATO reinforcement. By itself, airlift can move tactical air forces, light ground units, and a limited amount of high-priority unit equipment and munitions. When coupled with prepositioning of heavy materiel, it also provides the means for deploying heavy forces. Once the POMCUS program is complete, about 20 percent of the U.S. forces that would deploy to Europe in a major conflict would be supported by prepositioning and moved by airlift. Sealift would deliver more than 95 percent of the supplies and petroleum products needed to sustain these forces over time.

For deployments outside Europe, airlift would be used to move Air Force units, light ground units, and a limited number of heavier mechanized and armored units. Sealift would deploy and sustain larger forces. Such deployments would most likely occur in regions where port facilities are inadequate, necessitating the discharge of materiel under the "logistics over the shore" concept, which entails the use of crane ships, causeways, lighterage, and offshore petroleum discharge systems. In regions where the United States has security interests but does not maintain a large peacetime presence, a combination of afloat prepositioning and airlift would be used. Although storing equipment and supplies aboard ships is more expensive than using warehouses, it provides strategic flexibility that land-based prepositioning cannot. The three Marine Corps brigades that have equipment, munitions, and 30 days of supplies stored for them on maritime prepositioning ships (MPS) illustrate this point. If a contingency arose, the forces would be flown immediately to the conflict region, where they would link up with the ships carrying their combat equipment.

To enhance airlift capabilities, the United States is developing the new C-17 transport aircraft and maximizing the use of civilian cargo planes maintained in the Civil Reserve Air Fleet (CRAF). Today, as a result of improvements made over the past decade, the airlift fleet is capable of meeting about 75 percent of the wartime objective, delivering 48 million ton miles of cargo per day as against the 66 million goal. With the addition of the C-17, the fleet would be able to meet the full objective.

For sealift, among the possible single-theater scenarios, our objective is to provide enough capability to support a U.S. "go-it-alone" operation in the theater presenting the most demanding requirements. In a global war scenario, the objective is to meet with U.S. assets, sealift requirements in theaters where little or no allied assistance is available, and to draw as necessary on NATO shipping to satisfy European demands. The NATO Planning Board for Ocean Shipping (PBOS) maintains a Sealift Ships List comprising more than 400 dry cargo vessels that could quickly be made available for a European reinforcement. U.S. ships operated by the Military Sealift Command or attached to the Ready Reserve Force (RRF) would carry the initial large cargoes that would have to be transported to Europe by sea in a major deployment. The RRF, managed by the Maritime Administration, consists of ships maintained in reduced operating status that are militarily useful but no longer suited to profitable commercial trade. Because of the critical role these ships would play in a military deployment, funding to support the RRF's growth and readiness determines, to a large extent, the United States' ability to deploy forces early in a conflict.

Materiel needed to sustain deployed forces would be moved by ships requisitioned from the U.S. merchant marine or from commercial fleets under effective U.S. control, by allied ships (in a NATO reinforcement), and by multiple voyages of U.S. government-owned ships. Sustainability requirements could be met today with a blend of these resources, but currently our sealift capacity is about 20 percent short of our goal of one million short tons in a single lift, and future trends are not encouraging. The decline in U.S. and allied merchant marine fleets, due to international economic conditions beyond DoD's control, may threaten the future ability of the United States to sustain major military forces in combat theaters. Cooperation of government agencies and the Congress in implementing the National Sealift Policy announced by the Administration last October is important to maintaining the current forward defense strategy, and will become even more so if the Conventional Armed Forces in Europe (CFE) negotiations produce an agreement that leads to a substantial reduction in forward-deployed forces.

Strategic mobility is a capability of growing importance that will be greatly affected by future changes in the international situation and in the disposition of U.S. forces. The United States must maintain a steady investment in strategic mobility to meet the challenges of the future.

SPECIAL OPERATIONS FORCES

Over the coming decade, potential changes in global strategic relationships, combined with the potential for Third World conflict and related, multinational threats such as insurgency, terrorism, chemical/biological weapons proliferation, and narcotics trafficking, will increase the complexity of U.S. defense challenges. Faced with broad new uncertainties, the U.S. military must be prepared with appropriate forces to meet a wide variety of threats. Special Operations Forces (SOF) provide flexible, innovative, and highly ready forces whose expertise is applicable to both conventional and unconventional warfighting environments. At the same time, SOF areas of specialization, such as civil affairs and psychological operations, as well as language skills and other region-specific capabilities, enable these forces to contribute to U.S. efforts to respond to and defeat low-intensity conflict.

The past decade has seen an intensive program to revitalize SOF capabilities. A continued focus on SOF readiness is essential to our ability to deter and defend against aggression in the years ahead.

Challenges of the 1990s

The existence of an effective nuclear deterrent and large and capable conventional forces has effectively prevented war between the superpowers for more than 40 years, but it has not deterred mid- and low-intensity conflict. Such conflict, largely the result of instability in the Third World, poses a real and immediate challenge to democracies, and threatens relationships and alliances that are vital to the coalition defense and open economies of the United States and its allies and friends.

Third World conflict is often centered on regional or ethnic problems that reflect the unique political, social, and economic conditions existing in Third World countries. These problems demand unconventional solutions and the application of different criteria for victory — notably, winning popular support rather than merely capturing and controlling territory.

The challenge in peacetime is to engage U.S. power effectively in response to the threat posed by low-intensity conflict. Deterring such activities is enhanced by maintaining credible specialized forces and demonstrating a willingness to use these forces as appropriate in dealing with threats to U.S. interests.

Terrorism is a threat of particular concern that requires a strategy which must embrace the entire range of options open to the United States — including, as a last resort, military options. Indeed, political and economic actions are all the more effective when a terrorist state or group understands clearly that behind these measures stands effective military power, capable of an appropriate and timely response. While military retaliation alone will not stop terrorism, it can be a very effective instrument by making the costs to terrorists, and the states that support them, far outweigh any gains they might seek.

Meeting the Challenges Through Peacetime Engagement

Peacetime engagement recognizes that low-intensity conflict typically seeks to undermine already weak governments and the peacetime conditions that are necessary for democratic institutions and processes to function and mature. An effective response to low-intensity conflict thus requires innovative counterstrategies that reinforce a climate for democracy by providing economic, humanitarian, and security assistance. At the same time, when low-intensity conflict threatens our basic security interests, peacetime engagement requires the use of national power, including military force when necessary, to defend these interests.

Special Operations Forces play a critical role in this regard. Characterized by flexible, small unit organizations with a wide range of specialized skills, they help strengthen emerging democracies by providing numerous forms of assistance: security, training, humanitarian, and military civic action; psychological action; civil affairs; and combined U.S., allied, and host-country operations. They are capable of assisting host countries in combating insurgencies, terrorism, and narcotics trafficking and related violence. Special Operations Forces also provide the capability to conduct complex and urgent contingency operations.

Special Operations Forces counteract violence primarily by providing training to the military forces of friendly Third World nations. In FY 1989, 21 SOF mobile training teams were

Joint Special Operations Commands Chart 17

dispatched to 12 countries around the world. SOF have been involved in such security assistance activities in Latin America since 1961. An example of security assistance efforts was the special operations training provided in El Salvador to help strengthen the emergence of democracy in the 1980s. Special Operations Forces also help train Drug Enforcement Administration teams and military and law enforcement agencies in countries that are sources of the drug trade. These forces are then better prepared to counter violence by drug warlords and attack the drug-trafficking infrastructure.

Other SOF functions, such as psychological operations and civil affairs, play a key role in bolstering the will of friendly forces to fight and eroding the will of aggressors. In Grenada, Special Operations Forces not only had an important combat role; they helped rebuild the democratic society once the people of Grenada regained their liberty. Special Operations Forces also executed missions crucial to the success of Operation Just Cause in Panama.

Conventional Deterrence

In conjunction with conventional forces, Special Operations Forces make a vital contribution to conventional deterrence as well. Should deterrence fail, these forces provide wartime economy-of-force capabilities to disrupt, delay, or divert enemy forces through direct action, strategic reconnaissance, or unconventional warfare. Special Operations Forces can conduct operations deep inside enemy territory to weaken and disrupt the enemy's rear area of operations. The close integration of SOF and conventional forces in both planning and employment remains an essential element of our deterrent capability.

Moving Toward the Future

As part of the overall U.S. force modernization program, the Department of Defense has three broad priorities for Special Operations Forces. First, personnel quality within SOF must be emphasized and maintained at a high level. SOF missions are complex, requiring extensive training and special expertise. SOF personnel must be dedicated to their career specialities, which entail long-term development through training and experience, including acquiring knowledge of the cultures, languages, and customs of foreign countries. Second, the usually urgent requirement for rapid projection of globally oriented Special Operations Forces, in both peacetime and war, demands that we stress mobility capabilities. In the case of SOF, moreover, the capability to infiltrate and exfiltrate forces successfully from hostile areas is critical. Third, we are emphasizing the organizational development of SOF through the consolidation of the U.S. Special Operations Command.

The global uncertainties we face in the decade ahead make it essential to maintain and strengthen U.S. Special Operations Forces and the innovative strategies needed for their effective employment. Successful peacetime engagement and conventional deterrence will require forces that can be used, as appropriate, to support the global democratic interests on which the United States depends: in training friends and allies to meet threats to democracy; in counterterrorist operations; in countering illegal drug trafficking; in executing other missions required to defend U.S. lives, interests, and security; and in maintaining a credible, effective deterrent that is valid across the spectrum of conflict. To meet these requirements, the United States must continue to give high priority to Special Operations Forces.

COUNTERNARCOTICS PROGRAMS

The President's National Drug Control Strategy, announced in September 1989, represents a comprehensive, multiagency effort to attack the drug problem which threatens our way of life. One of its principal objectives is to reduce, and if possible eliminate, the flow of illegal narcotic substances to the United States. Detecting and monitoring the production, trafficking, and use of illegal drugs is a high-priority national security mission of the Department of Defense.

Illegal drug enterprises, and their effects, constitute a direct threat to the nation, attacking and undermining the core values of our society. The Department will work on the drug problem at every level — at the source of illegal drugs, in the delivery pipeline, in support of federal, state, and local law enforcement agencies, and in reducing demand for illegal drugs among military and civilian personnel within DoD.

The Evolution of DoD Anti-Drug Efforts

The Department has in the past few years provided significant support to U.S. drug law enforcement agencies, including personnel, training, equipment loans and transfers, and operational support. In addition to assisting U.S. agencies, DoD supports other countries' anti-drug efforts. This is accomplished through activities such as training in interdiction and eradication operations. The Department has trained more than 250 U.S. government personnel and at least 500 foreign personnel in skills such as operational planning, logistics, and weapons handling, in addition to providing training in jungle survival and individual combat techniques, and foreign languages. The Department has provided mobile training teams to Colombia, Bolivia, Peru, Ecuador, Costa Rica, the Bahamas, and to other drug source or transit countries. The Department has loaned hundreds of millions of dollars worth of equipment to various drug law enforcement agencies, including Navy E-2C aircraft; Blackhawk helicopters; command, control, and communications equipment; and M-16 rifles. In FY 1988, the Department expedited the transfer of 26 surplus UH-1H helicopters from the Army to the Department of State for use outside the country, and in FY 1989 it offered to transfer 15 P-3A aircraft to law enforcement agencies. U.S. active and reserve forces have provided extensive surveillance support along the nation's border and coastal areas. In FY 1989 alone, more than 39,000 flying hours and over 2,000 ship days supported law enforcement efforts. The Department also made land available to the Department of Justice for development of the Drug Law Enforcement Training Academy. But the Department must do more and is committed to doing much more.

The 1989 Defense Authorization Act initiated a new era in DoD support for law enforcement agencies. The act gave the Department significant new responsibilities, including: lead agency responsibility for detecting and monitoring aerial and maritime drug smuggling across U.S. borders; planning responsibility for a communications network that would support the integration of U.S. command, control, and communications and technical intelligence assets dedicated to drug interdiction; and an enhanced role for the National Guard, under the direction of state governors, in supporting state drug-interdiction and other enforcement efforts.

Under the President's National Drug Control Strategy and the Secretary of Defense's September 1989 DoD counternarcotics guidance, the Defense Department — in conjunction with the Department of State and U.S. law enforcement agencies — is helping to lead the attack on the supply of illegal drugs from abroad. DoD's efforts will complement those of other U.S. agencies and foreign countries.

On September 18, 1989, the day he issued counternarcotics guidance to the Department, the Secretary of Defense sent messages to the commanders-in-chief (CINCs) of the unified and specified commands informing them that reduction of the flow of drugs into the United States is a high-priority national security mission and directing them to elevate this mission's priority in their areas of responsibility. The counternarcotics mission will have particular priority in the Atlantic, Forces, Pacific, Southern, and North American Air Defense Commands. The Department will work to advance the national objective of reducing the flow of illegal drugs into the United States through the effective application of available resources consistent with our national values and legal framework.

An effective attack on the flow of illegal drugs requires action at every level of the flow: (1) in the countries that are sources of drugs, (2) in the

drug pipelines from source countries to the United States, and (3) in distribution networks in the United States. U.S. military forces can assist in the attack on the supply of drugs in each of these phases.

The production of illegal drugs is a complex criminal enterprise. It requires illicit labor, capital, entrepreneurship, and a substantial infrastructure to grow the plants that are the raw materials and to refine and manufacture the drugs. Reducing the availability of these elements of production in the countries from which illegal drugs originate would reduce the flow of drugs to the United States.

The Department of Defense can make an effective attack on the supply of drugs within source countries by providing operational support to host-country forces and cooperating with those forces in preventing drug exports. Pursuant to the National Drug Control Strategy, near-term efforts will focus on the Andean nations from which most cocaine entering the United States originates. Key to the success of U.S. efforts directed at the supply of illegal drugs — and in particular, to the success of U.S. counternarcotics operations — will be the cooperation of the foreign countries involved.

A sustained multinational effort is essential to stemming the flow of illegal drugs from abroad. Drug-producing criminal organizations control what amounts to private armies that challenge the law enforcement and military forces of their home countries. Often such organizations are intertwined with insurgent forces that directly challenge the governments of those countries. Defense Department assistance reinforces the abilities of host-country governments to combat drug-producing organizations. Security assistance can help such governments protect themselves from criminal drug enterprises and drug-related insurgencies and enforce their laws against drug producers and traffickers. It will help to strengthen the economies of these nations and keep their labor, capital, and entrepreneurship channeled toward useful production and away from drug manufacturing. Success in other efforts to attack the supply of illegal drugs in drug-producing countries will depend over the long run on the establishment of healthy economies and the restoration of governmental authority. To assist in implementing this element of the national drug control strategy, DoD will execute security assistance programs in accordance with presidential instructions and applicable laws, and in coordination with the Department of State and other federal agencies.

The Department also is prepared to provide counternarcotics operational support to the forces of cooperating countries. U.S. armed forces can provide foreign forces with substantial assistance in training, reconnaissance, command and control, planning, logistics, medical support, and civil action. Such military support would be designed to increase the effectiveness of foreign forces' efforts to destroy drug-processing laboratories, disrupt drug-producing enterprises, and control the land, river, and air routes by which illegal drugs exit their countries.

In addition to these forms of assistance, the United States can help law enforcement agencies in foreign countries combat the export of drugs. The Defense Department can contribute to that effort by providing improved intelligence collection capabilities, which will benefit not only source-country efforts but also U.S. actions in the second line of defense — the attack on drugs in transit to the United States.

The Department will assist in stopping the delivery of illegal drugs on their way to the United States and at U.S. borders and ports of entry. Deploying appropriate elements of the armed forces with the mission of helping to stem the flow of drugs should, over time, reduce the drug flow into our nation. At a minimum, these efforts will complicate the challenge of getting illegal drugs into the United States, thereby increasing the costs and risks of drug smuggling. As a high priority, U.S. military counternarcotics deployments will emphasize combating the flow of drugs across the Caribbean Sea and across the southern border of the United States.

A key element of the DoD counternarcotics effort is the development of effective detection and monitoring capabilities. The goal of the detection and monitoring mission is to identify aerial and maritime drug-smuggling and thereby help law enforcement personnel apprehend drug traffickers and their illicit cargo. This is a significant challenge, requiring the establishment of regional commands, intelligence apparatuses, and integrated command, control, and communications networks. The primary surveillance assets employed in aerial and maritime counternarcotics detection and monitoring include aerostats, coastal radars, airborne

early warning and reconnaissance aircraft, ground-based radars, naval combatants, and air defense fighter forces.

Intelligence collection assets are concentrating on the exploitation of targets such as international drug production, processing facilities, transshipment points, and associated air and maritime launching areas in support of detection and monitoring.

The success of counternarcotics interdiction and deterrence efforts will depend greatly upon the ability of the Department of Defense and law enforcement agencies to marshal effectively the myriad command, control, communications, and intelligence resources they possess into an integrated counternarcotics network. The Department of Defense is prepared, with the cooperation of U.S. law enforcement agencies, to undertake this task. The Department is prepared also to develop and employ the capability to coordinate tactical control of federal detection and monitoring assets actively dedicated to counternarcotics operations outside of and along the borders of the United States.

The third line of attack against the production, trafficking, and use of illegal drugs focuses on the United States itself. The role of U.S. armed forces in this regard includes actions to reduce both the supply of illegal drugs and the demand for those drugs.

Within our borders, the Department will assist federal, state, and local law enforcement agencies and National Guard units with training, reconnaissance, command and control, planning, and logistics. In appropriate cases, armed forces personnel and equipment will be detailed directly to law enforcement agencies to assist in the fight against drugs. The Department of Defense will ensure that its administrative and command structures permit rapid and effective responses to requests for counternarcotics assistance from law enforcement agencies and the National Guard.

The Department also bears an important responsibility for reducing the use of illegal drugs by its military and civilian personnel. We have already met with substantial success in this regard, achieving since 1980 an 82 percent reduction in drug abuse in the military through aggressive education and drug-testing programs. The Department will step up its efforts to combat illegal drug use by its civilian work force and will make available to other large organizations its experience in reducing the demand for illegal drugs. The Department also will emphasize drug abuse awareness and prevention in the military school system, which educates over 190,000 of America's children.

The President's National Drug Control Strategy represents a multinational, multiagency approach to combating the drug problem. The Department of Defense plays a crucial role in defending the United States from the scourge of illegal drugs. It will employ the resources at its command to fight the production, trafficking, and use of illegal drugs as an important part of the national effort to secure a drug-free America.

RESEARCH AND DEVELOPMENT

Research and Development (R&D) programs are vitally important to our national defense. They provide the key to the modernization of U.S. forces, and they help ensure that the United States maintains a qualitative advantage over potential adversaries. At the same time, these systems produce economic benefits for the country and enable the United States to attain competitive advantages in weapon development and production costs.

The decade of the 1990s will pose ever-increasing challenges to U.S. R&D programs and products. The Soviets have greatly increased their technological capabilities through vast expenditures on research and development, and through purchasing or otherwise acquiring advanced technology from the West. The qualitative improvements this has brought to Soviet forces are evident in numerous weapon systems, from quieter submarines to high-performance fighters with all-weather and "look-down/shoot-down" capabilities.

These challenges have arisen at a time when the U.S. R&D base has been affected by a downward trend in the number of firms and organizations capable of maintaining technological leads in fields with important military applications. The United States also has increased its reliance on other countries for critical materials and products, increasing the risk that these resources may not be available when the United States needs them. To meet these challenges in the 1990s, the Department of Defense will continue to improve and streamline all aspects of the R&D process, while maintaining a strong, cooperative relationship with American industry.

The Science and Technology (S&T) Program

U.S. defense policy has traditionally called for maintaining qualitatively superior forces to offset the disadvantage of numerally superior opposing forces. This concept requires the maintenance of a technology lead over potential adversaries and the industrial capacity to translate evolving technologies into useful military applications. The S&T Program, consisting of basic research, exploratory development, and advanced technology development efforts, is providing the United States with technical options that can be used to develop effective military strategies and the equipment with which to implement them.

A strong research program accomplished by a government laboratory-industry-university team ensures that the United States will be adept at incorporating scientific advances into military systems and at countering any technological surprises that might occur. Accordingly, DoD research programs exploit new breakthroughs in the fields of mathematics, computer science, chemistry, physics, electronics, geophysics, meteorology, oceanography, biology, medicine, and related disciplines. These efforts are focused on the development of advanced technologies with potentially significant military applications.

Technological advantage is a perishable commodity, and it must be constantly nurtured and protected because of continuing advances by our competitors and illegal transfers. The United States can maintain its technological lead through investments in critical technologies such as microelectronics, software, directed energy, robotics, materials, and propulsion. These technologies form the core of future capabilities in antisubmarine, electronic, and strategic warfare; low-intensity conflict; special operations; and other military missions.

Electronics and electronics-related developments are a major part of the S&T program. Microelectronic devices of less than a micron in size are being developed. Radiation-hardened gallium arsenide integrated circuits will give increased levels of protection against nuclear effects at higher computer operating speeds.

The Defense Advanced Research Projects Agency (DARPA)

DARPA is the Department of Defense's central research organization chartered with investigating and developing new and imaginative technologies of potentially significant military utility. DARPA's programs focus on basic research, technology development, and both technology and system-concept demonstrations of revolutionary approaches.

Under the Strategic Computing Program, DARPA is developing supercomputer technologies aimed at meeting DoD's needs for high-performance processing for antisubmarine warfare, battle management, intelligence analysis, aerodynamic design, and "smart weapons" applications.

DARPA also is devoting considerable attention to the development of advanced software technologies, which are increasingly central to the design and operation of weapon systems. The Software Technology for Adaptable and Reliable Systems Program is an industry-based effort under which advanced tools are being developed for software specification and design; rapid prototyping, production, and refinement; testing and documentation; and maintenance. These information processing technologies will be applied to the development of advanced information systems for defense. Systems development will also be improved through a new generation of very low cost man-in-the-loop weapon system simulators connected to thousands of other such simulators at dozens of sites using a low cost communications network. This will provide high-payoff training to enhance readiness of active duty and reserve forces at low cost; and allow weapon systems concept evaluation for improved procurement.

The DARPA Advanced Space Technology Program is defining, developing, and demonstrating advanced high-payoff technologies that could improve space system support for military operations while helping to ensure the continued availability of space assets in wartime. The program is aimed at fulfilling three major goals: enhancing military access to space and reducing the cost of space systems; decreasing the vulnerabilities of space systems to natural phenomena and hostile action; and improving the utility of space systems, especially for tactical forces.

Test and Evaluation (T&E)

Testing remains a critical and essential element of the weapons acquisition process. The entire T&E community is dedicated to providing accurate and sufficient test data in support of acquisition decisions. As part of that effort, increased emphasis is being placed on acquiring needed improvements in test ranges, targets, and instrumentation. Meanwhile, the acquisition community is actively committed to T&E planning, including live-fire testing. Future efforts will seek to inject innovative methods and techniques into these processes as a means of minimizing testing time and costs, while increasing the objectivity and timeliness of the system evaluations that support the acquisition process.

The Defense Nuclear Agency (DNA)

DNA is chartered with conducting research and experiments to quantify the effectiveness of U.S. nuclear weapons and to ensure the survivability of U.S. military forces in a nuclear environment. The survivability of each remaining asset becomes more important with each reduction in the number of weapons in the U.S. arsenal. Not only must survivability be addressed, but system effectiveness against an increasingly hardened threat must receive attention on a priority basis.

DNA conducts the research necessary to develop and evaluate technologies, design concepts, and techniques that could reduce the vulnerability of U.S. forces and weapons to radiation, thermal, and blast damage. This applies to the full spectrum of mission-critical elements, from vulnerable human operators to relatively invulnerable force structure elements such as reentry vehicles and Army tanks. Conversely, DNA must conduct the research and testing necessary to ensure that U.S. strategic nuclear capabilities are maintained against a target base that is becoming increasingly harder and more sophisticated. Strategic nuclear weapon systems and critical theater/tactical weapons must be capable of surviving and operating in a nuclear environment if they are to provide meaningful military response options.

DNA fulfills a critical role in providing data crucial to the developers and potential users of major weapon systems. Its role in addressing the full spectrum of nuclear-related aspects of the defense mission is becoming increasingly important as agreements are reached that reduce the number of weapons required to maintain our strategic nuclear deterrent. DNA is responsible for the work necessary to ensure both that U.S. weapons and forces could survive in a nuclear environment and that they are effective in accomplishing their missions.

The Defense Department accomplished a great deal in the field of research and development during the past decade. The 1990s pose different challenges. The explosive growth in new technologies will make the threat even more complex and potentially more dangerous. We can overcome these challenges with deployment of effective weapon systems, provided that well-planned and energetic R&D programs lay the foundation now for progress in the coming decade and the 21st century.

Part V
Statutory Reports

REPORT OF THE SECRETARY OF THE ARMY

The Army's accomplishments in operational and management areas were significant during the past year. We conducted a variety of planned and contingency operations around the world in support of U.S. national military strategy. We also made important strides in improving the efficiency and effectiveness of our use of the resources entrusted to us.

Operational Accomplishments

In addition to attaining record levels of combat readiness throughout the Total Army, in the United States as well as abroad, we participated in a wide variety of successful operations that spanned the range of our roles and missions. The most significant of these was our participation in Operation Just Cause in Panama. This was a very successful demonstration of the Army's rapid response capabilities. Just Cause was the most complex contingency deployment and employment of U.S. forces since World War II; yet soldiers were on the ground in Panama within 60 hours of the Presidential decision to deploy, with a total of over 12,000 introduced within the following 12 hours. The operation demonstrated the Army's ability to generate the appropriate combination of forces for any contingency. Troops came from a number of different units — both forward deployed and contingency forces — and consisted of a balanced mix of heavy, light, and special operations forces. The complexity of the operation — airborne, air assault, and day and night combat — was a real test of unit leadership and training, and its success was a tribute to the courage and sense of duty of our soldiers.

In numerous other planned and emergency deployment exercises, Army units trained to maintain this capability to respond to any contingency with a mix of forces. We also participated in other operations, including support to international peacekeeping efforts, operations to protect shipping in the Persian Gulf, disaster relief, and illicit drug traffic interdiction. Additionally, we played a major role in implementing the INF Treaty. We began the elimination of Pershing missiles at the three destruction sites run by the Army, and Army personnel participated in inspections of Soviet destruction activities.

The most important element contributing to our operational accomplishments was the quality of our soldiers and civilians. Over 60 percent of the soldiers entering the Army last year scored in the upper half of standardized tests, and over 90 percent were high school graduates. Moreover, the Army was successful at retaining quality soldiers in record numbers, surpassing reenlistment goals by over 10 percent. Our civilian work force was equally successful in attracting and retaining the highest quality men and women. Quality people give our organizations a level of effectiveness and versatility that is crucial to the success of our relatively small force in accomplishing its worldwide roles and mission.

In force structure, modernization, and training the Army also made important strides that directly enhanced our ability to meet U.S. defense requirements. To improve Army support throughout the Pacific theater, we completed plans to convert our Western Command in Hawaii to the U.S. Army Pacific Command. We activated five aviation attack group headquarters and four attack helicopter battalions in the Army National Guard, two attack helicopter battalions in the U.S. Army Reserve, and the remaining units of the 10th Mountain Division. To meet required reductions in Active force end strength while retaining necessary combat capabilities, we deactivated a brigade of the 4th Infantry Division (Mech) and designated an Army National Guard brigade to replace it in the division. The Army continued fielding the most modern systems to those units in the active and reserve components that need them first in combat, to include two additional Apache attack helicopter battalions in Europe. We also added modernization master plans for tactical wheeled vehicles and armor-antiarmor systems to the family of plans that guide our current modernization efforts and promulgated the Army Technology Base Master Plan to guide our R&D in shaping the Army of the future.

Army training — the cornerstone of readiness because it melds people, equipment, units, and leaders into effective combat teams in the most realistic possible field environments — achieved a significant level of success in preparing our soldiers, civilians, and leaders for their wartime and peacetime missions. We opened the Com-

bat Maneuver Training Center in Germany, expanded the National Training Center in California, continued to develop the Joint Readiness Training Center in Arkansas, and emphasized worldwide training exercises that integrated appropriate elements of our heavy, light, and special operations forces with sister services and allies. Through the Reserve Components Training Strategy, we have formalized our approach to training the reserve components. The Reserve Components Training Development Action Plan, designed to improve soldier, leader, and unit training, is in the process of being implemented. The quality of our people and the effectiveness of our training were evident in the victory of Army teams and individual aviators in the 1989 World Helicopter Championships. We have also been successful in training safely. Despite the increasing complexity of Army weapons and equipment, there has been an encouraging reduction in overall accident trends and fatalities. We are institutionalizing civilian training through the Army Civilian Training, Education, and Development System that sets training standards through progressive and sequential training plans for over 98,000 civilians in 24 career fields.

The effectiveness of the present-day Army, and its legacy for the future, are functions of the quality of its military and civilian leaders. Leader development in the Army — which includes formal education and training, progressive experiences in organizations, and self-development opportunities — made significant advances this past year. We completed in-depth studies and began implementation of a broad range of enhancements to our officer and NCO leader development systems. These improvements included establishing a Leader Development Support System to oversee and coordinate leader development activities throughout the Total Army and upgrading the coverage of Air-Land Battle doctrine in our precommand courses. Similarly, we continued the expansion of the Army Management Staff College, which is an essential component of the Army's Civilian Training, Education, and Development System.

Management Accomplishments

In all management areas the Army made concerted efforts in the past year to improve its operations. The actions we took resulted in better use of available resources, including people, time, facilities, materials, and funds.

The Army refined its three-tiered acquisition organization, learning from its second full year of streamlined operations under the new Army Acquisition Executive — Program Executive Officer (PEO) — Project Manager structure. This experience was invaluable in allowing us to define more precisely our PEO requirements and, as a result, we reduced the number of PEOs from 22 to 13.

Personnel management also advanced. We made full use of formal institutions including the senior service colleges, the Defense Systems Management College, the Army Logistics Management College, and the Army Management Staff College mentioned above to expand the professional and leadership competence of civilian and military managers. We have begun testing the integration of civilians into the Army Personnel Proponent System, which will allow us to manage their careers more effectively while progressively developing their knowledge and skills.

In the financial management area, our automation enhancements significantly improved pay services to soldiers and civilians. We also achieved very favorable results in a pilot program to improve efficiency by giving installation commanders control of their civilian personnel budgets and the authority for position classification and, consequently, will expand the program in the future.

The Army has taken several initiatives to expand access to our direct health care system while reducing reliance on CHAMPUS to control costs. One particularly notable program provides CHAMPUS funds to selected medical treatment facility commanders who exercise responsibility for all care in their geographical area whether in their facility or in the civilian community.

The Army streamlined some of its production and sustainment functions during the past year. Our commercial activities initiative produced savings in terms of cost avoidance and reduced civilian and military space requirements. We began the implementation of Total Quality Management principles that we expect to yield significant enhancements in quality while reducing resource requirements and management time.

The Army made significant progress in the installation management area. Base realignment and closure planning is under way to ensure prompt and efficient implementation of approved recom-

mendations on the more than 120 Army installations affected. With our Army Communities of Excellence program, we have helped installation commanders find low-cost, self-help projects which provide timely and worthwhile improvements in living and working conditions. Excellent communities play a vital role not only in mission accomplishment but also in retention of the quality soldiers and civilians that are the hallmark of today's Army. We remain committed to providing our soldiers and families a quality of life equal to that enjoyed by those they defend.

Emphasis on environmental improvement and conservation remains a major Army effort. We completed contamination cleanup at 20 Army sites and made significant progress at an additional 350. Army leaders created aggressive compliance and environmental awareness at all levels of command, as evidenced by the Army's receipt of this year's Secretary of Defense Environmental Quality Award.

We realize that embedding excellence through efficiency and the execution of effective programs is a continuing process. In both operational and management areas we are proud of our accomplishments this past year. We will strive to improve on these accomplishments in the coming years.

M. P. W. Stone

Michael P. W. Stone
Secretary of the Army

REPORT OF THE SECRETARY OF THE NAVY

The Department of the Navy procures and maintains the forces needed to fulfill its missions of strategic deterrence, power projection, sea control, and strategic lift. In day-to-day operations, globally deployed units of the Navy and Marine Corps confer upon the United States a unique ability to affect world events in support of our national objectives of peace and freedom.

U.S. and Soviet navies last year hosted a meeting between President George Bush and General Secretary Mikhail Gorbachev in the Mediterranean Sea. Fostering improved East-West relations, the two navies also concluded an historic exchange of port visits. Three Soviet ships, including the Slava-class cruiser Marshal Ustinov, visited Norfolk, Virginia in July. In August, USS Thomas S. Gates (CG 51) and USS Kauffman (FFG 59) made a port call in Sevastopol. In another historic exchange, the Chinese training ship Zheng He visited Hawaii in April. During a reciprocal visit in May, even as events in Beijing unfolded, USS Blue Ridge (LCC 19), USS Sterett (CG 31), and USS Rodney M. Davis (FFG 60) were welcomed warmly in Shanghai, in the first visit to that city by U.S. Navy ships since 1946.

Fleet commanders last year expanded their drug interdiction efforts, with more than 2,200 ship steaming days and 9,000 aircraft flight hours dedicated to surveillance and tracking of drug traffic long before it can reach U.S. shores. In October, these efforts resulted in USS Blakely's (FF 1072) participation in the 110th combined Navy-Coast Guard drug seizure. Marines initiated anti-drug support for civilian law enforcement agencies in the southwest United States. On the opposite side of the globe, Navy ships of the Joint Task Force Middle East continue to monitor U.S. Flag vessels in the Persian Gulf shipping lanes, acting as a force for stability in that area, now the scene of an uncertain peace. Marine forces completed their Persian Gulf Mobile Seabase operations. Aircraft carrier battle groups and Marine Expeditionary Units responded to several other pressing contingencies in the past year, including the hostage crisis in Lebanon and events in Panama. U.S. ballistic missile submarines, the most cost-effective and survivable leg of the strategic triad, conducted more than 100 deterrent patrols.

Sailors and Marines aided in the recovery efforts following the San Francisco earthquake, and assisted the victims of Hurricane Hugo in Puerto Rico, the U.S. Virgin Islands, and South Carolina. Navy amphibious ships with embarked Marines and oil recovery craft assisted in cleanup operations in Alaskan waters following a tanker accident in Prince William Sound. Also in the past year, Navy ships rescued more than 250 refugees in the South China Sea.

Despite the constant tempo of operations worldwide, funding for Navy and Marine Corps programs remains below that for any fiscal year since 1984. Budget austerity has resulted in the termination of several programs, the transfer of several ships to the Naval Reserve Force, and in the early retirement of several older ships, such as USS Coral Sea (CV 43), to be decommissioned in April 1990. The Marine Corps likewise has cut three infantry battalions, and transferred several active support units to the reserves. Navy battle forces overall will continue to decline in number, from a strength of 567 ships in FY 1989 to a fleet of 556 in FY 1990.

In FY 1989, 21 ships were added to the fleet, 17 ships were retired, and 4 ships transferred to the Naval Reserve. New commissionings included USS Wasp (LHD 1), the first of a new class of amphibious assault ships, two Trident ballistic missile submarines, two Aegis guided missile cruisers, two Los Angeles-class attack submarines, a Whidbey Island-class LSD and two mine countermeasure ships. With funds appropriated for FY 1989 the Department of the Navy initiated procurement for 207 aircraft and 22 ships. Funding for FY 1990 will support a buy of 140 aircraft and 17 ships.

The Department of the Navy's major programs include development of the new Seawolf class of nuclear-powered attack submarines, the Trident D-5 submarine-launched ballistic missile, and the new class of Aegis-equipped destroyers. The lead ship of this class, Arleigh Burke (DDG-51), was launched in September 1989. The Department of the Navy is the lead agency for several key developmental programs with multi-service applications, including the new stealth A-12 attack aircraft, and the Long-Range Conventional Standoff Weapon. Marine Corps developmental programs

are sharpening the Corps' ability to sustain rapid, "over the horizon" expeditionary operations.

The Department of the Navy's highest budget priority is sustaining the high quality of our sailors and marines. Only through their efforts can our advanced technology, training, tactics, and strategy succeed. The many factors affecting their quality of life are at the center of our attention as we accommodate successive decrements in overall funding. Foremost, the Department of the Navy stands by its commitment to enhance the compensation of its personnel and to adhere to realistic limitations on the operating tempo of our deployed ships, squadrons, and Fleet Marine Forces. We have supported essential upgrades in government-provided family housing and child care, and endorse measures aimed at reducing the out-of-pocket expenses incurred by our members living in the private sector. Navy medical facilities were placed last year under the authority of base and station commanders in order to enhance their responsiveness to the fleet's health care needs.

Our ability to support U.S. national security objectives in the future rests on today's program of research and development. The Department of the Navy's R&D efforts focus on technologies with the greatest potential for improving combat capability in each warfare area. The Navy's top warfare priority is antisubmarine warfare, supported by several programs, including development of the new Seawolf-class attack submarine, the new P-7 antisubmarine patrol aircraft, shipboard sonar upgrades, and a concentrated program of research. Advances in airframe materials and electronics will provide opportunities in stealth, performance, and cost reduction of missiles and aircraft. We are striving to bring new ideas for ship hull forms, propulsion, and integrated weapons systems out of the labs and into the fleet, and to manage that process in a cost-effective manner.

The Department of the Navy has adopted cost saving management techniques such as Total Quality Management and competition wherever practicable. FY 1989 marked the first year in recent history that all shipbuilding contracts were awarded competitively. For the seventh consecutive year, the Navy has increased the percentage of competitive awards both in terms of dollars and contract actions. About 59 percent of the dollars obligated and more than 93 percent of the Department's contract actions were awarded competitively.

The Department of the Navy has fulfilled requirements of the Defense Management Review by assigning sole responsibility for research, development, and acquisition functions to a newly established Assistant Secretary of the Navy, ASN(RD&A). Program Executive Officers and system commanders will report directly to this new acquisition executive, providing for streamlined oversight of the acquisition process. We are establishing a dedicated corps of officer and civilian specialists in acquisition management. Matters pertaining to military requirements and to test and evaluation have been delegated to the Chief of Naval Operations and the Commandant of the Marine Corps. The importance of environmental issues is recognized in the establishment of a new Assistant Secretary of the Navy (Installations and Environment), and in the Department of the Navy's program to reduce hazardous waste generation by 50 percent by the end of 1992.

H. Lawrence Garrett, III
Secretary of the Navy

REPORT OF THE SECRETARY OF THE AIR FORCE

The Air Force stands on the threshold of the 1990s organized, trained, and equipped to support national security objectives while responding to the challenges of significant fiscal constraints and geopolitical shifts. The Air Force has pursued a balanced approach to underwriting national defense, emphasizing high-quality people and decentralized management, leveraging its investments through readiness, upgrades, and modernization. In doing so, the Air Force has prepared for the future while meeting its vital day-to-day objectives.

Recruiting, retaining, and motivating high-quality people, providing the needed training and professional skills, ensuring their adequate compensation, and protecting their health and safety has been our highest priority. Our recruiting and retention efforts met with significant success — for example, 99 percent of our recruits were high school graduates — and innovative programs were targeted at the retention of important specialties, such as pilots and physicians. More remains to be done. Our safety efforts in FY 89 resulted in the best ground safety record in history, and the third best flying safety record.

The Air Force participated fully in the review process leading to the Defense Management Report to the President (DMR) and is aggressively streamlining our management processes. Taking on the challenge of creating our own real growth, we are dedicated to eliminating non-value added activities Air Force-wide. Over 400 ideas have been generated by Air Force people, with over 40 selected for the first phase of DMR implementation — including a major effort to streamline Air Force Logistics Command, Air Force Systems Command, and Air Force Communications Command. Improving the system acquisition process has been a major focus of Air Force DMR implementation. Improving our Program Management Directives and developing the complementary Acquisition Program Baseline and Acquisition Information System represent a three-pillared management initiative to streamline authority and responsibility while preserving maximum flexibility for program execution.

The Air Force maintains its combat capability in the face of budget constraints by focusing on readiness, modifications to existing systems, and force modernization. Air Force readiness has steadily improved over the last nine years and stabilized at FY 87-FY 88 levels — an all-time high. To maintain that vital readiness, we have accepted force reductions of 32 squadrons and more than 31,000 people over the last five years, deferred facility improvements, and reduced the modernization pace. Although decreases in sustainability investment are a reality, progress in reducing sustainment costs has allowed us to hold the line.

Strategic forces have been a high priority as nuclear deterrence remains the cornerstone of our national military strategy. The revolutionary B-2 has successfully completed initial test flights. The B-1 continues to mature and meet its strategic commitments, and the Peacekeeper achieved full operational capability in Minuteman silos after the most successful ICBM developmental test program in history. Research and development on the Advanced Cruise Missile, Small ICBM, and Rail Garrison basing for Peacekeeper are progressing well.

Modernizing tactical airpower is also a high priority. Investments in system modifications and upgrades will have long-term payoffs in improved combat power. The fielding of the LANTIRN on the F-15E and the Block 40 F-16s will provide significant night, adverse weather capability. The unveiling of the F-117A reflects technology development that will achieve orders of magnitude improvements in combat capability in the Advanced Tactical Fighter, now in research and development.

Our investments in power-projection forces enhance our flexibility and ability to support forward defense. The B-52 added another dimension, acquiring a precision standoff conventional capability. We accepted delivery of the last C-5B, completing that program ahead of schedule and under cost, and expanded the Civil Reserve Air Fleet. Delivery of the last KC-10 and continued re-engining of the KC-135 enhanced our global reach. And assembly began on the first of the next generation of airlifters, the C-17.

The Air Force has emphasized integrating space into every mission area, establishing an Assistant Secretary of the Air Force (Space) to manage space activities and integrate space with terrestrial forces. Our mixed-fleet launch strategy provided versatile,

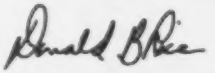
robust, assured access to space with several expendable launch vehicle programs. We successfully launched the Titan IV and the Delta II, which carried the first operational Global Positioning System satellites into space.

Closer to earth, the Air Force also recognized the increasing importance of special operations, establishing two new special operations wings — one in Europe and one in the Pacific.

The Air Force launched new activities in support of the President's national strategy to combat the threat to our national security posed by narcotics. Air Force people, aircraft, radars, and equipment are working with law enforcement agencies and our allies to slow the flow of drugs.

While underwriting deterrence with increased capabilities, the Air Force responded to contingencies and disasters around the world. We deployed forces to Panama to protect Americans there and lifted UN peacekeeping forces to Namibia. We also provided humanitarian airlift of approximately 7,500 tons of badly needed supplies and equipment following earthquakes and hurricanes — ranging from the Caribbean to Armenia. And while, tragically, the most publicized search and rescue mission of the year — that for Congressman Mickey Leland and his party — found them not alive, Air Force Rescue and aeromedical evacuation forces recorded hundreds of saves in FY 1989.

The 1990s will be challenging. International dynamics and budgetary constraints will continue to apply pressure. As they do, the Air Force will assume an even more important role in national defense owing to the inherent flexibility, global reach, and lethality of airpower.



Donald B. Rice
Secretary of the Air Force

REPORT OF THE CHAIRMAN OF THE RESERVE FORCES POLICY BOARD

It is an honor for me to serve as Chairman of the Reserve Forces Policy Board (Board) which, acting through the Assistant Secretary of Defense for Reserve Affairs, is by statute, the "principal policy adviser to the Secretary of Defense on matters relating to the reserve components" (10 USC 175(c)). In this position I follow my friend Will Hill Tankersley. He is a distinguished businessman, soldier and former Department of Defense official. Under his able leadership, the Board has made many significant contributions to our National Security.

The importance of our nation's reserve components cannot be over emphasized. My service as Secretary of the Army for over eight and one-half years, combined with my earlier service in the National Guard and Army Reserve, have convinced me that in today's world environment the importance of our reserve components will increase. This is especially true in view of the budget constraints with which we are faced.

The Total Force Policy was promulgated in 1973. As implemented, it has brought great change and success to the reserve components. The reserve components today are full partners with the active components. There are no major operational plans that could be executed without the reserve components. The challenges of low intensity conflict around the world will require additional focus on the capabilities of reserve component special operations units and personnel. The Selected Reserve makes up 35 percent of the Total Force. This ranges from a high of over 50 percent in the Army to 18 percent in the Marine Corps. Today's National Guard and Reserve units are composed of higher quality personnel, are being more effectively trained, and have more modern equipment. They are better prepared than ever to perform their vital missions. The support of the American people, the Administration, the Congress and the services has made this possible. Challenges still exist in the areas of personnel, training, equipment, and facilities which are essential to achieving required readiness and they will be detailed in the Board's upcoming report.

Recruiting and retention efforts of the reserve components have been successful in attracting and keeping high-quality individuals. The Montgomery GI Bill and various bonus programs have contributed greatly to this effort. Recruiting is likely to become more difficult due to a shrinking pool of young men eligible for military service. The increasing number of women serving in the reserve components is helping to alleviate this problem. Since 1981, the number of women in the Selected Reserve has increased by 75 percent. Women now comprise about 12 percent of the Selected Reserve and 13 percent of the Individual Ready Reserve.

The most significant training detractor for reserve component personnel is time available to train. Sufficient full-time support personnel and automation should be provided to perform many of the peacetime administrative functions now being handled by drilling members of the National Guard and Reserve. This would allow them to devote more of their time to training.

In addition to paid drills, most reserve forces' leaders, commissioned and noncommissioned, spend a tremendous amount of time working at their units on administration, logistics, and training. In recent years, administration and readiness requirements have increased enormously. National Guard and Reserve leaders — who usually have demanding careers in civilian life and young families — are feeling considerable pressure from employers and families to get out of the reserve components. If they must choose between their civilian vocation and their families or their military avocation, the choice they will make is very certain.

We cannot afford to lose these National Guard and Reserve leaders who are essential if the Total Force is to be effective. Therefore, it is critical that unreasonable demands on their time be reduced. This can be achieved either by eliminating some of the requirements, which may be impossible if units are to be in a high state of readiness, or by providing sufficient full-time support personnel and automation to fulfill the requirements.

Policies pertaining to appointment, retention, promotion, and retirement of reserve component officers are addressed in the Reserve Officer Personnel Management Act. Passage of this legislation is important.

Overseas Deployment Training (ODT), and training with wartime gaining commands, provides

some of the most effective training available for the reserve components. Preparation for and execution of ODT closely parallels actual mobilization and deployment. Civic action and technical assistance to friendly nations, in conjunction with ODT, supports foreign policy and increases United States stature abroad. Morale and retention is increased and the ability of the United States to effectively execute its forward defense strategy is demonstrated. In FY 1989, 88,500 reserve component personnel trained in 96 foreign countries. The importance of ODT will increase if additional missions are transferred to the reserve components and United States forces are reduced overseas.

Department of Defense policy is to equip first those units that will deploy first. This policy, which was first recommended by the Board, has resulted in substantial amounts of modern equipment going to the reserve components. This has significantly increased readiness. Although excellent progress has been made in equipping National Guard and Reserve units, the shortfall of equipment on-hand versus wartime requirements was over $14 billion at the end of FY 1989.

It is important to national security that our National Guardsmen and Reservists be ready and fit to fight on a complex and unforgiving modern battlefield. I am convinced that every member of the reserve components must be physically fit prior to mobilization. This requirement can only be satisfied by strong leadership, and individual effort. History has proven that a force that is fit and ready is less likely to have to fight.

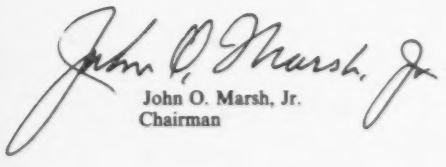
I do have two concerns about reserve component force structure and budget issues:

First, the reserve components provide a cost-effective means for augmenting the active forces and maintaining a strong deterrence. Recognizing this, budget makers are likely to try to save dollars, while maintaining capability, by transferring more missions from the active to the reserve components. The reserve components stand ready to accept additional responsibilities. However, the added missions and force structure must be adequately resourced, and they must be of the type that are supportable within the parameters of reserve component recruiting, retention, and training. It must be remembered that reserve component units are expected to maintain readiness in less than 20 percent of the time available to active component units. To demand more could adversely impact recruiting and retention. To allow less would hurt readiness.

My second concern is the tendency to think of "equal share" reductions when budget cuts are required. If budget reductions for the reserve components become necessary, they should not automatically be on an equal basis with the active component. "Equal share" budget reductions ignore fundamental differences between the active and reserve components, and are particularly inappropriate at a time when additional missions and force structure are being given to the reserve components.

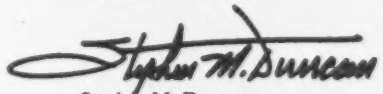
The Total Force Policy is indeed the nation's shield. It is a sound concept that has made it possible for the United States to have an adequate defense at a reasonable cost. Today's reserve components are of high quality, well-equipped, well-trained, and ready to deploy. The Reserve Forces Policy Board stands ready to assist in developing and reviewing policies which will maintain and enhance reserve component readiness.

The Board's Annual Report is scheduled for publication in March 1990 and will provide a comprehensive report on reserve component programs.

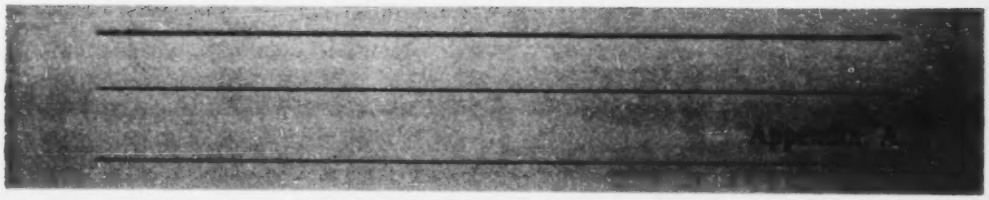


John O. Marsh, Jr.
Chairman

Forwarded to the
Secretary of Defense



Stephen M. Duncan
Assistant Secretary of Defense
for Reserve Affairs



Department of Defense — Budget Authority by Appropriation[a] (Dollars in Millions)

Table A-1

	FY 1984	FY 1985	FY 1986[b]	FY 1987	FY 1988	FY 1989	FY 1990	FY 1991
Current Dollars								
Military Personnel	48,363	67,773	67,794	74,010	76,584	78,477	78,548	79,054
Retired Pay	16,503	*	*	*	*	*	*	*
Operations & Maintenance	70,950	77,803	74,888	79,607	81,629	86,221	86,761	90,092
Procurement	86,161	96,842	92,506	80,234	80,053	79,390	82,561	77,855
Research, Development, Test and Evaluation (RDT&E)	26,867	31,327	33,609	35,644	36,521	37,530	36,809	37,972
Military Construction	4,510	5,517	5,281	5,093	5,349	5,738	5,266	5,578
Family Housing	2,669	2,890	2,803	3,075	3,199	3,276	3,221	3,458
Special Foreign Currency Program	3	9	2	4				
Defense-wide Contingency								-300
Revolving & Management Funds	2,774	5,088	5,235	2,612	1,246	897	-769	2,228
Trust & Receipts	-628	-426	-707	-781	-801	-668	-999	-776
Deduct, Intragovt Receipt	-22	-21	-22	-28	-26	-25	-28	-29
Total, Current $	**258,150**	**286,802**	**281,390**	**279,469**	**283,755**	**290,837**	**291,369**	**295,131**
Constant FY 1991 Dollars								
Military Personnel	63,155	80,110	77,261	82,442	82,100	81,460	81,142	79,054
Retired Pay	20,872	*	*	*	*	*	*	*
Operations & Maintenance	88,314	94,934	90,434	93,034	92,451	93,680	90,885	90,092
Procurement	110,696	120,712	111,707	93,481	89,698	85,559	85,627	77,855
RDT&E	34,311	38,819	40,562	41,706	41,198	40,653	38,306	37,972
Military Construction	5,820	6,905	6,423	5,973	6,021	6,203	5,469	5,578
Family Housing	3,355	3,535	3,349	3,576	3,604	3,546	3,356	3,458
Special Foreign Currency Program	4	11	2	4				
Defense-wide Contingency								-300
Revolving & Management Funds	3,522	6,248	6,253	3,037	1,407	972	-801	2,228
Trust & Receipts	-798	-523	-844	-908	-904	-723	-1,041	-776
Deduct, Intragovt Receipt	-28	-26	-26	-33	-30	-28	-30	-29
Total, Constant $	**329,224**	**350,724**	**335,123**	**322,311**	**315,546**	**311,324**	**302,915**	**295,131**
% Real Growth								
Military Personnel	1.2	26.8	-3.6	6.7	-0.4	-0.8	-0.4	-2.6
Retired Pay	-1.2	-100.0	0.0	0.0	0.0	0.0	0.0	0.0
Operations & Maintenance	5.2	7.5	-4.7	2.9	-0.6	1.3	-3.0	-0.9
Procurement	3.8	9.0	-7.5	-16.3	-4.0	-4.6	0.1	-9.1
RDT&E	13.6	13.1	4.5	2.8	-1.2	-1.3	-5.8	-0.9
Military Construction	-3.2	18.6	-7.0	-7.0	0.8	3.0	-11.8	2.0
Family Housing	-4.4	5.4	-5.2	6.8	0.8	-1.6	-5.4	3.0
Total	**4.6**	**6.5**	**-4.4**	**-3.8**	**-2.1**	**-1.3**	**-2.7**	**-2.6**

[a] Numbers may not add to totals due to rounding.

[b] Lower Budget Authority in the Military Personnel Accounts in FY 1986 reflects the congressional direction to finance $4.5 billion for the military pay raise and retirement accrual costs by transfers from prior year unobligated balances.

[c] Retired pay accrual included in Military Personnel appropriation.

Department of Defense — Budget Authority by Component[a] (Dollars in Millions)

Table A-2

	FY 1984	FY 1985	FY 1986[b]	FY 1987	FY 1988	FY 1989	FY 1990	FY 1991
Current Dollars								
Army	62,181	74,270*	73,128*	73,984*	75,813*	78,079*	77,606*	75,798*
Navy	82,088	99,015*	96,113*	93,500*	100,281*	97,675*	99,609*	99,484*
Air Force	86,108	99,420*	94,870*	91,624*	88,324*	94,685*	92,944*	94,817*
Defense Agencies/OSD/JCS	10,746	13,126	15,520	19,195	17,021	18,154	17,855	21,175
Defense-wide	17,027	970	1,759	1,168	2,315	2,245	3,356	3,858
Total, Current $	**258,150**	**286,802**	**281,390**	**279,469**	**283,755**	**290,837**	**291,369**	**295,131**
Constant FY 1991 Dollars								
Army	80,613	90,936*	86,997*	85,305*	83,959*	83,236*	80,557*	75,798*
Navy	104,583	121,238*	114,555*	107,752*	111,475*	104,511*	103,514*	99,484*
Air Force	108,512	120,836*	112,464*	105,289*	98,230*	101,442*	96,780*	94,817*
Defense Agencies/OSD/JCS	13,977	16,514	18,986	22,604	19,275	19,705	18,574	21,175
Defense-wide	21,540	1,200	2,120	1,362	2,608	2,429	3,490	3,858
Total, Constant $	**329,224**	**350,724**	**335,123**	**322,311**	**315,546**	**311,324**	**302,915**	**295,131**
% Real Growth								
Army	4.2	12.8	-4.3	-1.9	-1.6	-0.9	-3.2	-5.9
Navy	-2.8	15.9	-5.5	-5.9	3.5	-6.2	-1.0	-3.9
Air Force	13.6	11.4	-6.9	-6.4	-6.7	3.3	-4.6	-2.0
Defense Agencies/OSD/JCS	11.8	18.2	15.0	19.1	-14.7	2.2	-5.7	14.0
Defense-wide	-1.8	-94.4	76.6	-35.8	91.5	-6.9	43.7	10.5
Total	**4.6**	**6.5**	**-4.4**	**-3.8**	**-2.1**	**-1.3**	**-2.7**	**-2.6**

[a] Numbers may not add to totals due to rounding.

[b] Lower Budget Authority in the Military Personnel Accounts in FY 1986 reflects the congressional direction to finance $4.5 billion for the military pay raise and retirement accrual costs by transfers from prior year unobligated balances.

* Includes Retired Pay accrual.

Federal Budget Trends (Dollars In Millions)

Table A-3

Fiscal Year	Federal Outlays as a % of GNP	DoD Outlays as a % of Federal Outlays	DoD Outlays as a % of GNP	Non-DoD Outlays as a % of Federal Outlays	Non-DoD Outlays as a % of GNP	DoD Outlays as a % of Net Public Spending[a]
1950	16.0	27.5	4.4	72.5	11.6	17.9
1955	17.6	51.5	9.1	48.5	8.6	34.5
1960	18.2	45.0	8.2	55.0	10.0	28.8
1965	17.5	38.8	6.8	61.2	10.7	23.8
1970	19.8	39.4	7.8	60.6	12.0	23.6
1971	19.9	35.4	7.0	64.6	12.8	20.6
1972	20.0	32.6	6.5	67.4	13.5	18.8
1973	19.1	29.8	5.7	70.2	13.4	17.1
1974	19.0	28.8	5.5	71.2	13.5	16.6
1975	21.8	25.5	5.6	74.5	16.2	15.1
1976	21.9	23.6	5.2	76.4	16.7	14.0
1977	21.1	23.4	4.9	76.6	16.2	14.0
1978	21.1	22.5	4.7	77.5	16.4	13.6
1979	20.5	22.8	4.7	77.2	15.8	13.8
1980	22.2	22.5	5.0	77.5	17.2	13.8
1981	22.7	23.0	5.2	77.0	17.5	14.4
1982	23.7	24.5	5.8	75.5	17.9	15.5
1983	24.3	25.4	6.2	74.6	18.2	16.1
1984	23.1	25.9	6.0	74.1	17.1	16.3
1985	24.0	25.9	6.2	74.1	17.8	16.4
1986	23.6	26.8	6.3	73.2	17.3	16.6
1987	22.6	27.3	6.2	72.7	16.4	16.5
1988	22.3	26.5	5.9	73.5	16.3	16.0
1989	22.2	25.6	5.7	74.4	16.5	15.4
1990	21.8	24.0	5.2	76.0	16.6	14.3
1991	21.0	23.7	5.0	76.3	16.0	13.9

[a] Federal, state, and local net spending excluding government enterprises (such as the postal service and public utilities) except for any support these activities receive from tax funds.

Defense Shares of Economic Aggregates

Table A-4

Fiscal Year	DoD as a Percentage of Public Employment		DoD as a Percentage of National Labor Force		National Income Accounts Percentage of Total Purchases		
	Federal	Federal State & Local	Direct Hire (DoD)	Including Industry	National Defense[a]	Total Federal	State & Local
1965	71.3	29.3	5.0	7.8	7.3	9.8	9.8
1966	73.0	30.6	5.6	9.0	7.5	10.0	10.0
1967	74.1	31.5	6.0	10.0	8.7	11.0	10.4
1968	74.0	31.3	6.1	10.0	9.0	11.4	10.8
1969	73.2	30.1	5.9	9.4	8.5	10.8	11.0
1970	72.3	27.7	5.3	8.1	7.9	10.1	11.4
1971	68.3	24.3	4.6	7.0	7.1	9.3	12.0
1972	66.0	21.5	4.0	6.2	6.6	9.0	12.0
1973	65.0	20.4	3.7	5.8	6.0	8.2	11.8
1974	63.8	19.4	3.5	5.5	5.6	7.7	12.0
1975	62.9	18.6	3.4	5.3	5.7	8.1	12.8
1976	62.5	18.1	3.3	5.0	5.4	7.8	12.7
1977	62.5	17.5	3.2	5.0	5.1	7.6	11.9
1978	61.9	17.0	3.1	4.8	4.9	7.3	11.8
1979	61.1	16.5	2.9	4.7	4.8	7.1	11.5
1980	61.3	16.5	2.8	4.7	5.1	7.5	11.8
1981	62.4	17.1	2.8	4.7	5.4	7.8	11.4
1982	63.2	17.4	2.8	4.9	6.0	8.4	11.5
1983	63.5	17.6	2.9	5.1	6.3	8.7	11.6
1984	63.5	17.6	2.8	5.3	6.2	8.1	11.2
1985	63.3	17.5	2.9	5.5	6.4	8.7	11.5
1986	63.2	17.2	2.8	5.6	6.6	8.8	11.8
1987	62.9	17.1	2.8	5.6	6.6	8.5	12.1
1988	61.8	16.5	2.7	5.4	6.2	7.8	12.0
1989	61.5	16.0	2.6	5.3	5.9	7.8	12.1

[a] Includes Department of Defense — military, atomic energy defense activities, and other defense-related activities, such as emergency management and maintenance of strategic stockpiles and the Selective Service System.

Military and Civilian Personnel Strength[a] (End Fiscal Year — In Thousands)

Table B-1

	Actual										Programmed	
	FY 1980	FY 1981	FY 1982	FY 1983	FY 1984	FY 1985	FY 1986	FY 1987	FY 1988	FY 1989	FY 1990	FY 1991
Active Component Military												
Army	777	781	780	780	780	781	781	781	772	770	744	728
Navy	527	540	553	557	565	571	581	587	593	593	591	585
Marine Corps	189	191	192	194	196	198	199	199	197	197	197	197
Air Force	562	575	588	597	597	601	608	607	576	571	545	530
Total	**2,055**	**2,087**	**2,113**	**2,128**	**2,138**	**2,151**	**2,169**	**2,174**	**2,138**	**2,131**	**2,077**	**2,040**
Reserve Component Military (Selected Reserve)												
ARNG	366.6	389.0	407.6	417.2	434.3	440.0	446.2	451.9	455.2	457.0	447.3	447.3
Army Reserve	213.2	232.0	256.7	266.2	275.1	292.1	309.7	313.6	312.8	319.2	309.2	309.2
Naval Reserve	97.1	98.3	104.8	109.1	120.6	129.8	141.5	148.1	149.5	151.2	153.4	149.7
MC Reserve	35.7	37.3	40.5	42.7	40.6	41.6	41.6	42.3	43.6	43.6	44.0	43.9
ANG	96.3	98.3	100.6	102.2	105.0	27.3	112.6	114.6	115.2	116.1	116.2	116.3
Air Force Reserve	59.8	62.3	64.4	67.2	70.3	75.2	78.5	80.4	82.1	83.2	84.9	85.2
Total	**868.7**	**917.2**	**974.6**	**1004.6**	**1045.9**	**1006.0**	**1130.1**	**1150.9**	**1158.4**	**1170.6**	**1155.0**	**1151.6**
Direct Hire Civilian												
Army[b]	312	318	321	332	343	359	353	358	337	347	334	334
Navy	298	310	309	328	332	343	332	343	337	343	337	330
Air Force[b]	231	233	235	238	240	250	250	252	241	249	249	246
Defense Agencies	75	79	80	82	85	91	92	96	95	98	98	103
Total	**916**	**940**	**945**	**980**	**1000**	**1043**	**1027**	**1049**	**1010**	**1037**	**1018**	**1013**

[a] Numbers may not add to totals due to rounding.

[b] These totals include Army and Air National Guard technicians, who were converted from state to federal employees in FY 1979.

U.S. Military Personnel in Foreign Areas[a] (End Fiscal Year — In Thousands)

Table B-2

	FY 1979	FY 1980	FY 1981	FY 1982	FY 1983	FY 1984	FY 1985	FY 1986	FY 1987	FY 1988	FY 1989[b]
Germany	239	244	248	256	254	254	247	250	251	249	249
Other Europe	61	65	64	67	70	73	75	75	73	74	71
Europe, Afloat	25	22	25	33	18	25	36	33	31	33	21
South Korea	39	39	38	39	39	41	42	43	45	46	44
Japan	46	46	46	51	49	46	47	48	50	50	50
Other Pacific	15	15	16	15	15	16	16	17	18	17	16
Pacific Afloat (Including Southeast Asia)	22	16	25	33	34	18	20	20	17	28	25
Latin America/Caribbean	12	11	12	11	14	13	12	13	13	15	21
Miscellaneous Foreign	9	31	27	23	27	25	20	26	27	29	13
Total	**468**	**489**	**502**	**528**	**520**	**511**	**515**	**525**	**524**	**541**	**510**

[a] Numbers may not add to totals due to rounding.
[b] As of September 30, 1989.

Appendix C

Department of Defense Strategic Forces Highlights

Table C-1

	FY 1980	FY 1984	FY 1986	FY 1988	FY 1989	FY 1990	FY 1991
Strategic Offense							
Land-Based ICBMs[a]							
Titan	52	32	7	—	—	—	—
Minuteman	1,000	1,000	998	954	950	950	950
Peacekeeper	—	—	2	46	50	50	50
Strategic Bombers (PAA)[b]							
B-52D	75	—	—	—	—	—	—
B-52G/H	241	241	241	234	173	154	154
B-1B	—	—	18	90	90	90	90
Fleet Ballistic Missile Launchers (SLBMs)[a]							
Poseidon A-3	80	—	—	—	—	—	—
Poseidon (C-3 and C-4)	336	384	320	336	384	368	368
Trident	—	72	144	192	192	240	288
Strategic Defense Interceptors (PAA/Squadrons)[b]							
Active	127/7	90/5	76/4	36/2	36/2	18/1	18/1
Air National Guard	165/10	162/10	198/1	216/12	216/12	216/12	216/12

[a] Number on-line.
[b] Primary aircraft authorized.

Department of Defense General Purpose Forces Highlights

Table C-2

	FY 1980	FY 1984	FY 1986	FY 1988	FY 1989	FY 1990	FY 1991
Land Forces							
Army Divisions							
Active	16	16	18	18	18	18	16
Reserve	8	8	10	10	10	10	10
Marine Corps Divisions							
Active	3	3	3	3	3	3	3
Reserve	1	1	1	1	1	1	1
Army Separate Brigades[a]							
Active	8	8	7	8	8	8	8
Reserve	26	23	20	20	20	19	19
Army Special Forces Groups							
Active	2	4	4	4	4	5	5
Reserve	4	4	4	4	4	4	4
Army Ranger Regiment	0	0	1	1	1	1	1
Tactical Air Forces (PAA/Squadrons)[b]							
Air Force Attack and Fighter Aircraft							
Active	1,608/74	1,734/77	1,764/78	1,868/79	1,769/79	1,743/75	1,746/75
Reserve	758/36	852/43	876/43	909/43	897/42	867/42	849/42
Conventional Bombers							
B-52G	0	0	0	0	61	33	33
Navy Attack and Fighter Aircraft							
Active	696/60	616/63	758/65	758/67	730/65	698/66	684/66
Reserve	120/10	75/9	107/10	121/10	118/10	61/10	116/10
Marine Corps Attack and Fighter Aircraft							
Active	329/25	256/24	333/25	346/25	335/25	348/26	383/27
Reserve	84/7	90/8	94/8	96/8	90/8	102/8	102/8
Naval Forces							
Strategic Forces Ships	48	41	45	43	42	40	41
Battle Forces Ships	384	425	437	437	434	412	397
Support Forces Ships	41	46	55	60	64	66	68
Reserve Forces Ships	6	12	18	25	26	33	40
Total Deployable Battle Forces	479	524	555	565	566	551	546
Other Reserve Forces Ships	44	24	21	21	21	21	17
Other Auxiliaries	8	9	7	5	3	3	3
Total Other Forces	52	33	28	26	24	24	20

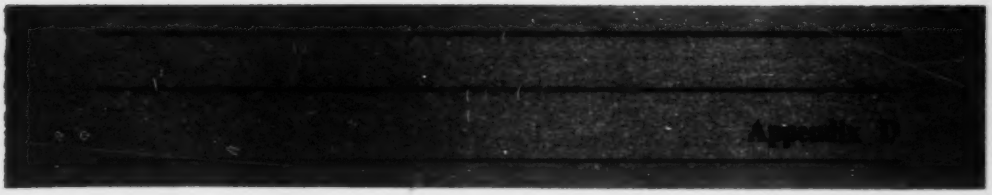
[a] Does not include roundout brigades; does include the eskimo scout group and the armored cavalry regiments.
[b] PAA — Primary aircraft authorized.

Department of Defense
Airlift and Sealift Forces Highlights

Table C-3

	FY 1980	FY 1984	FY 1986	FY 1988	FY 1989	FY 1990	FY 1991
Intertheater Airlift (PAA)[a]							
C-5	70	70	71	98	110	110	110
C-141	234	234	234	234	234	234	234
KC-10	—	25	48	57	57	57	57
C-17	—	—	—	—	—	—	—
Intratheater Airlift (PAA)[a]							
C-130	482	520	504	521	492	450	444
C-123	64	—	—	—	—	—	—
C-7A	48	—	—	—	—	—	—
Sealift Ships, Active[b]							
Tankers	21	21	24	20	29	28	27
Cargo	23	30	40	41	40	40	39
Sealift Ships, Reserve[b]							
RRF[c]	24	51	77	91	93	100	105
NDRF[d]	—	—	—	129	128	120	118

[a] Primary aircraft authorized.
[b] Includes fast sealift ships, afloat prepositioned force ships, and common user (charter) ships.
[c] Ready Reserve Force (assigned to 5-, 10-, or 20-day reactivation readiness groups).
[d] National Defense Reserve Fleet (beginning in FY88 specific NDRF ships were designated militarily useful ships).



Selection of Officers for Award of the Joint Specialty (FY1989)

Table D-1

Service	I	II	III	IV	V	Total
Army	33	27	1315	820	15	2210
Navy	8	7	628	202	0	845
USMC	12	1	255	160	3	431
USAF	30	39	1537	241	10	1857
DOD	83	74	3735	1423	28	5343

NOTES: TYPE I includes officers who have completed both a joint professional military education (JPME) course and a subsequent joint duty assignment (JDA). TYPE II includes officers who have completed both the joint education and assignment prerequisites, but required a waiver for the sequence of the prerequisites. TYPE III includes officers who have completed a JDA, but required a waiver for the joint education course. TYPE IV includes officers who completed a joint education course, but received a waiver for completing a JDA. TYPE V includes officers who qualified for the joint specialty under the critical occupational specialty (COS) provision of the law.

Critical Occupational Specialties

Table D-2

The following military specialties, listed by service, are designated as critical occupational specialties. In every case, the specialties so designated are each service's "combat arms" specialties.

Army	Navy	USAF	USMC
Infantry	Surface	Pilot	Infantry
Armor	Submariner[a]	Navigator	Tanks/AAV
Artillery	Aviation	Air Weapons Director[a]	Artillery
Air Defense Artillery	SEALs[a]	Missile Operations[a]	Air Control/Air Support/AntiAir
Aviation	Special Operations	Space Operations[a]	Aviation
Special Operations		Operations Mgt	Engineers
Combat Engineers			

a Combat arms military occupational specialties which have a severe shortage of officers.

Critical Occupational Specialty Officers

Table D-3

Category	Army	Navy	USAF	USMC	Total
JSO Nominee	139	173	1099	97	1508
JSO Nominee in a JDA	139	160	986	90	1375
JSO Nominee in a JDA, no JPME	41	43	967	89	1140
Completed a JDA and at JPME	2	11	7	0	20
Completed JPME in FY 89	326	185	266	160	937
Selected for JSO	1148	546	961	272	2927

Critical Occupational Specialty Officers

Table D-4

	2nd JDA						Critical JDA					
	FG			G/FO			FG			G/FO		
	Have Srvd	Are Srvg	Ttl	Have Srvd	Are Srvg	Ttl	Have Srvd	Are Srvg	Ttl	Have Srvd	Are Srvg	Ttl
Army	10	123	133	0	26	26	1	34	35	0	1	1
Navy	0	13	13	0	3	3	0	3	3	0	1	1
USAF	0	25	25	2	1	3	0	7	7	3	1	4
USMC	0	2	2	0	2	2	0	1	1	0	1	1
Total	**10**	**163**	**173**	**2**	**32**	**34**	**1**	**45**	**46**	**3**	**4**	**7**

Officers Nominated for the Joint Specialty

Table D-5

	Nominated (COS)	Total Nominated
Army	139	158
Navy	43	173
USAF	1099	1174
USMC	97	97
Total	**1378**	**1602**

JOINT DUTY ASSIGNMENT OBJECTIVES
Annual Report on FY 1989 Promotion Rates

Promotion rates required by the DoD Reorganization Act of 1986, with the intent to measure the quality of officers assigned to joint duty, are attached in the following pages. Brief explanations for the "in zone" categories where the required promotion objectives were not met are consolidated in Table D-6. As reported in September 1989, the Joint Staff and joint commanders have seen a noticeable improvement in the quality of officers assigned. Since that report was submitted, a joint study group has begun looking at the current methods of measuring the quality of officers to determine if the Department is capturing the best data available. Preliminary results of that group's effort show that promotion rates appear to be the best objective measure of quality; however, this methodology does have some shortcomings.

For example, many cases where promotion objectives were not achieved were a result of small populations, many where only one officer with joint experience was eligible, and cases where one additional selectee would have meant meeting or exceeding the promotion objective. Also, FY 1989 boards contained some officers who were still in joint duty assignments based on pre-Act assignment practices — the net result being lower joint promotion rates. It will be another year before the joint promotion statistics fully reflect the post-Goldwater-Nichols assignment practices.

Other areas of concern include the above/below zone statistics and the exclusion of some officers from the statistics. Above and below zone statistics are difficult to compare and analyze because of the extremely low promotion opportunity in these zones. Additionally, the different promotion philosophies for above/below zone promotions of the Services complicates the analysis. Furthermore, the requirement to exclude joint specialty officers serving in the "other joint duty" category does not appear to be a reasonable measure of the quality in this category. Lastly, many quality officers assigned to joint duty will not be reflected in the statistics for many years. For example, on the FY 1989 Army Colonel Selection Board, due to assignment timing, 147 of the 540 officers selected in-zone were senior service college students. When these officers are included in the statistics based on their subsequent assignments (2 months after the board), the joint promotion rates are considerably higher (see Note #5 in Table D-6).

The joint study group is looking closely at these areas of concern to determine better ways to monitor the Department's progress toward this important objective of assigning quality officers to joint duty.

NOTE: In the tables that follow, a dash (–) indicates there were no eligible officers in that category and a "N/A" means that no such category exists for that rank.

Promotion Rates

Table D-6

Rank	Joint Categories	Are Serving In (In Percent) In Zone	Below Zone	Above Zone	Have Served In (In Percent) In Zone	Below Zone	Above Zone	Remarks
Air Force Promotion Rates (Line)								
0-8	Joint Staff	25	N/A	N/A	50	N/A	N/A	See note 2
	Joint Specialty	38	N/A	N/A	38	N/A	N/A	
	Service HQS	37	N/A	N/A	14	N/A	N/A	
	Other Joint	0	N/A	N/A	0	N/A	N/A	See note 1
	Service Average	36	N/A	N/A	36	N/A	N/A	
0-7	Joint Staff	4	N/A	N/A	0	N/A	N/A	See note 2
	Joint Specialty	3	N/A	N/A	3	N/A	N/A	See note 3
	Service HQS	4	N/A	N/A	2	N/A	N/A	
	Other Joint	0	N/A	N/A	0	N/A	N/A	See notes 2 & 3
	Service Average	2	N/A	N/A	2	N/A	N/A	
0-6	Joint Staff	58	2	40	67	0	—	See note 2
	Joint Specialty	68	5	14	68	5	14	
	Service HQS	59	4	11	58	23	7	
	Other Joint	42	1	6	27	1	3	See notes 3 & 4
	Service Average	44	3	3	44	3	3	
0-5	Joint Staff	91	8	60	100	0	0	See note 2
	Joint Specialty	93	6	67	93	6	33	See note 2
	Service HQS	92	8	19	100	14	0	
	Other Joint	70	2	10	69	3	9	
	Service Average	64	3	7	64	3	7	
0-4	Joint Staff Joint Specialty Service HQs Other Joint Service Average	(No Board in FY 89)						
Army Promotion Rates (Army Competitive Category)								
0-8	Joint Staff	33	—	N/A	33	—	N/A	See note 2
	Joint Specialty	47	—	N/A	47	—	N/A	See note 2
	Service HQS	40	—	N/A	50	—	N/A	
	Other Joint	46	—	N/A	36	—	N/A	
	Service Average	36	—	N/A	36	—	N/A	
0-7	Joint Staff	8	—	N/A	2	—	N/A	See note 2
	Joint Specialty	3	—	N/A	3	—	N/A	See note 3
	Service HQS	2	—	N/A	7	—	N/A	
	Other Joint	7	—	N/A	6	—	N/A	
	Service Average	2	—	N/A	2	—	N/A	

Promotion Rates (Continued)

Table D-6

Rank	Joint Categories	Are Serving In (In Percent)			Have Served In (In Percent)			Remarks
		In Zone	Below Zone	Above Zone	In Zone	Below Zone	Above Zone	
O-6	Joint Staff	53	0	6	17	5	—	See note 3
	Joint Specialty	47	2	2	47	2	—	
	Service HQS	40	0	0	35	4	—	
	Other Joint	28	0	1	12	0	—	See note 5
	Service Average	41	2	1	41	2	—	
O-5	Joint Staff	100	17	0	100	0	—	
	Joint Specialty	79	7	16	79	6	23	See note 4
	Service HQS	80	7	12	75	18	25	
	Other Joint	68	5	2	49	2	2	See note 4
	Service Average	61	6	5	61	6	5	
O-4	Joint Staff	100	—	—	100	100	—	
	Joint Specialty	—	—	—	—	—	—	
	Service HQS	86	11	—	88	11	—	
	Other Joint	86	—	—	86	—	—	
	Service Average	69	3	19	69	3	19	
Marine Corps Promotion Rates (Unrestricted)								
O-8	Joint Staff	—	—	N/A	—	—	N/A	
	Joint Specialty	44	—	N/A	44	—	N/A	See note 6
	Service HQS	75	—	N/A	20	—	N/A	
	Other Joint	—	—	N/A	50	—	N/A	
	Service Average	42	—	N/A	42	—	N/A	
O-7	Joint Staff	25	—	N/A	0	—	N/A	See note 1
	Joint Specialty	4	—	N/A	—	—	N/A	
	Service HQS	4	—	N/A	2	—	N/A	
	Other Joint	40	—	N/A	0	—	N/A	See note 1
	Service Average	3	—	N/A	3	—	N/A	
O-6	Joint Staff	100	0	10	—	0	—	
	Joint Specialty	60	0	0	60	—	0	See note 2
	Service HQS	63	0	11	62	0	8	
	Other Joint	39	0	13	33	0	0	See note 2
	Service Average	45	0	6	45	0	6	
O-5	Joint Staff	78	0	—	100	0	—	
	Joint Specialty	78	0	0	78	0	0	
	Service HQS	78	0	4	67	0	11	
	Other Joint	75	0	0	40	0	29	See note 2
	Service Average	60	0	6	60	0	6	
O-4	Joint Staff	—	—	—	—	—	—	
	Joint Specialty	—	—	—	—	—	—	
	Service HQS	67	0	25	67	0	0	
	Other Joint	33	0	0	50	—	0	See note 3
	Service Average	67	0	17	67	—	17	

Promotion Rates (Continued)

Table D-6

Rank	Joint Categories	Are Serving In (In Percent)			Have Served In (In Percent)			Remarks
		In Zone	Below Zone	Above Zone	In Zone	Below Zone	Above Zone	
Navy Promotion Rates								
O-8 Unrestricted Line	Joint Staff	—	—	N/A	—	—	N/A	
	Joint Specialty	50	14	N/A	—	—	N/A	
	Service HQS	50	40	N/A	—	—	N/A	
	Other Joint	33	0	N/A	—	—	N/A	See note 2
	Service Average	54	17	N/A	—	—	N/A	
Cryptology	Joint Staff	100	—	N/A	—	—	N/A	
	Joint Specialty	—	—	N/A	—	—	N/A	
	Service HQS	—	—	N/A	—	—	N/A	
	Other Joint	—	—	N/A	—	—	N/A	
	Service Average	100	—	N/A	—	—	N/A	
Supply	Joint Staff	—	—	N/A	—	—	N/A	
	Joint Specialty	100	0	N/A	—	—	N/A	
	Service HQS	—	—	N/A	—	—	N/A	
	Other Joint	—	—	N/A	—	—	N/A	
	Service Average	67	17	N/A	—	—	N/A	
O-7 Unrestricted Line	Joint Staff	0	6	—	—	—	N/A	See note 2
	Joint Specialty	2	3	—	—	10	N/A	See note 2
	Service HQS	3	8	—	—	—	N/A	
	Other Joint	0	1	—	—	—	N/A	See note 2
	Service Average	1	3	—	—	3	N/A	
Civil Engineer	Joint Staff	—	—	N/A	—	—	N/A	
	Joint Specialty	0	0	N/A	—	—	N/A	
	Service HQS	0	0	N/A	—	—	N/A	
	Other Joint	0	0	N/A	—	—	N/A	
	Service Average	0	0	N/A	—	—	N/A	
Engineering Duty	Joint Staff	—	—	N/A	—	—	N/A	
	Joint Specialty	0	0	N/A	—	—	N/A	
	Service HQS	0	0	N/A	—	—	N/A	
	Other Joint	—	0	N/A	—	—	N/A	See note 1
	Service Average	0	2	N/A	—	—	N/A	
Public Affairs	Joint Staff	0	—	N/A	—	—	N/A	See note 1
	Joint Specialty	20	0	N/A	20	—	N/A	See note 6
	Service HQS	50	—	N/A	—	—	N/A	
	Other Joint	0	0	N/A	—	—	N/A	See note 2
	Service Average	11	0	N/A	11	—	N/A	
Supply	Joint Staff	0	0	N/A	—	—	N/A	
	Joint Specialty	0	3	N/A	—	—	N/A	
	Service HQS	0	0	N/A	—	—	N/A	
	Other Joint	0	0	N/A	—	—	N/A	
	Service Average	0	3	N/A	—	—	N/A	

Promotion Rates (Continued)

Table D-6

Rank	Joint Categories	Are Serving In (In Percent)			Have Served In (In Percent)			Remarks
		In Zone	Below Zone	Above Zone	In Zone	Below Zone	Above Zone	
O-6 Unrestricted Line	Joint Staff	67	0	25	—	0	—	
	Joint Specialty	70	0	0	—	—	—	
	Service HQS	38	2	0	100	0	—	
	Other Joint	28	0	0	0	0	0	See note 7
	Service Average	49	2	2	49	2	—	
Civil Engineer	Joint Staff	—	—	—	—	—	—	
	Joint Specialty	0	0	—	—	—	—	See note 2
	Service HQS	50	0	—	—	—	—	
	Other Joint	0	0	0	—	—	—	See note 1
	Service Average	46	0	11	—	—	—	
Aeronautical Engineer	Joint Staff	—	—	—	—	—	—	
	Joint Specialty	0	0	—	—	—	—	See note 1
	Service HQS	100	0	—	—	—	—	
	Other Joint	—	0	0	—	—	—	
	Service Average	45	0	7	—	—	—	
Cryptology	Joint Staff	—	—	—	—	—	—	
	Joint Specialty	0	0	100	—	—	—	
	Service HQS	0	0	—	—	—	—	
	Other Joint	0	0	13	—	—	—	See note 1
	Service Average	33	4	8	—	—	—	
Engineering Duty	Joint Staff	—	—	—	—	—	—	
	Joint Specialty	—	—	—	—	—	—	
	Service HQS	—	33	—	—	—	—	
	Other Joint	0	0	—	—	—	—	See note 1
	Service Average	50	2	—	—	—	—	
Intelligence	Joint Staff	—	—	—	—	—	—	
	Joint Specialty	0	0	0	—	—	—	
	Service HQS	0	0	0	—	—	—	
	Other Joint	0	0	8	—	—	—	See note 2
	Service Average	44	6	4	—	—	—	
Oceanography	Joint Staff	0	—	—	—	—	—	
	Joint Specialty	0	0	—	—	—	—	
	Service HQS	0	0	—	—	—	—	
	Other Joint	—	0	—	—	—	—	
	Service Average	55	3	—	—	—	—	
Public Affairs	Joint Staff	—	—	—	—	—	—	
	Joint Specialty	67	0	—	—	—	—	See note 2
	Service HQS	100	0	—	—	—	—	
	Other Joint	67	0	0	—	—	—	
	Service Average	44	7	0	—	—	—	
Supply	Joint Staff	—	0	—	—	—	—	
	Joint Specialty	0	0	—	—	—	—	
	Service HQS	—	0	—	—	—	—	
	Other Joint	14	0	0	—	—	—	See note 2
	Service Average	44	2	3	—	—	—	

Promotion Rates (Continued)

Table D-6

Rank	Joint Categories	Are Serving In (In Percent)			Have Served In (In Percent)			Remarks
		In Zone	Below Zone	Above Zone	In Zone	Below Zone	Above Zone	
(O-5) Line	Joint Staff	—	—	—	—	—	—	
	Joint Specialty	64	3	50	100	0	—	See note 2
	Service HQS	93	3	9	50	0	33	
	Other Joint	45	3	1	—	—	0	See note 2
	Service Average	61	2	2	61	2	2	
Civil Engineer	Joint Staff	—	0	—	—	—	—	
	Joint Specialty	—	—	0	—	0	0	
	Service HQS	100	0	0	—	—	0	
	Other Joint	—	—	0	—	0	0	
	Service Average	63	0	4	—	0	4	
Aeronautical Engineer	Joint Staff	—	—	—	—	—	—	
	Joint Specialty	0	—	—	—	—	—	
	Service HQS	—	—	—	—	—	—	
	Other Joint	0	0	0	—	—	—	See note 2
	Service Average	57	0	17	—	—	—	
Cryptology	—	—	0	—	—	—		
	Joint Specialty	—	0	0	—	—	—	
	Service HQS	—	—	0	—	—	—	
	Other Joint	0	0	0	—	—	—	See note 2
	Service Average	64	3	0	—	—	—	
Engineering Duty	Joint Staff	—	—	—	—	—	—	
	Joint Specialty	100	0	—	—	—	—	
	Service HQS	—	—	—	—	—	—	
	Other Joint	100	0	0	—	—	0	
	Service Average	63	3	4	—	—	3	
Intelligence	Joint Staff	—	—	—	—	—	—	
	Joint Specialty	83	0	0	—	—	—	
	Service HQS	—	—	—	—	—	—	
	Other Joint	70	0	0	—	—	—	See note 2
	Service Average	74	0	0	—	—	—	
Public Affairs	Joint Staff	—	—	—	—	—	—	
	Joint Specialty	0	—	—	—	—	100	
	Service HQS	—	—	—	—	—	100	
	Other Joint	0	0	—	—	—	—	See note 2
	Service Average	33	14	—	—	—	14	
Supply	Joint Staff	100	—	—	—	—	—	
	Joint Specialty	80	0	—	—	—	—	See note 2
	Service HQS	100	0	—	—	—	—	
	Other Joint	67	0	0	—	—	—	
	Service Average	66	0	2	—	—	—	

Promotion Rates (Continued)

Table D-6

Rank	Joint Categories	Are Serving In (In Percent)			Have Served In (In Percent)			Remarks
		In Zone	Below Zone	Above Zone	In Zone	Below Zone	Above Zone	
O-4 Unrestricted Line	Joint Staff	67	0	0	—	0	0	See note 2
	Joint Specialty	—	—	—	—	—	—	
	Service HQS	75	4	0	100	0	0	
	Other Joint	55	1	0	50	0	—	See note 3
	Service Average	73	2	15	73	2	15	
Cryptology	Joint Staff	—	—	—	—	—	—	
	Joint Specialty	—	—	—	—	—	—	
	Service HQS	—	50	—	—	—		
	Other Joint	0	0	0	—	—	—	See note 2
	Service Average	69	3	10	—	—	—	
Engineering Duty	Joint Staff	—	—	—	—	—	—	
	Joint Specialty	—	—	—	—	—	—	
	Service HQS	—	—	—	—	—	—	
	Other Joint	50	0	—	—	—	—	See note 2
	Service Average	78	1	—	—	—	—	
Intelligence	Joint Staff	—	—	—	—	—	—	
	Joint Specialty	—	—	—	—	—	—	
	Service HQS	—	—	—	—	—	0	
	Other Joint	67	0	0			0	See note 2
	Service Average	80	2	0			2	
Oceanography	Joint Staff	—	—	—	—	—	—	
	Joint Specialty	—	—	—	—	—	—	
	Service HQS	—	—	—	—	—	—	
	Other Joint	67	0	—	—	—	—	See note 2
	Service Average	74	0	—	—	—	—	
Supply	Joint Staff	—	—	—	—	—	—	
	Joint Specialty	—	—	—	—	—	—	
	Service HQS	0	—	—	—	—	—	
	Other Joint	57	0	0	—	0	—	See note 2
	Service Average	64	2	26	—	2	—	

Notes:
1. Small numbers involved — only one officer with joint experience eligible for promotion in this competitive category.
2. Small numbers involved — one additional selection in this promotion category needed to meet promotion objective.
3. Smal numbers involved — less than 3 1/2% of eligible population; comparison and analysis is inconclusive.
4. Within 2% of meeting promotion objective.
5. If the Senior Service College students who were selected for promotion were included with their post-PME organization, the promotion rate for "other joint duty" would have been 47% — exceeding the service average by 6%.
6. Small numbers involved — if one more joint specialist officer and one less Service Headquarters General Officer were selected, the promotion objective would have been met.
7. Several non-selectees were assigned to joint positions under pre-DoD Reorganization Act assignment policies. Now quality officers are being assigned to their positions, i.e., O-6 promotion rates for those assigned in 1989 were 73% compared to 49% service average.

Analysis of the Assignment of Officers Following Selection for the Joint Specialty

Table D-7

Category	Army	Navy	USAF	USMC	Total
Command	246	174	179	59	658
Service HQ	130	89	54	46	319
Joint Staff					
Critical	6	3	6	2	17
Other JDA	37	9	14	3	63
Total	43	12	20	5	80
Other Joint					
Critical	98	30	50	11	189
Other JDA	283	70	123	33	509
Total	381	100	173	44	698
PME	192	93	70	16	371
Other Oper	337	65	97	139[a]	638
Other Staff	608	57[b]	306	63[a]	1034
Other Shore	—	357	—	14	371

The information in this chart identifies the first reassignment of an officer following selection for the joint specialty.

[a] For the Marine Corps, Other Oper = Fleet Marine Force and Other Staff = non-Fleet Marine Corps.

[b] For Navy, Other Staff includes other shore assignments.

Average Length of Tours of Duty in Joint Duty Assignments (FY 1989) (In Months)

Table D-8

	Joint Staff	Other Joint	Joint Total
General/Flag Officers			
Army	26	26	26
Navy	28	25	26
USMC	35	27	28
USAF	21[a]	29	28
DOD	26	27	27
Other Officers			
Army	35	40	40
Navy	37	40	39
USMC	38	37	37
USAF	40	41	41
DOD	37	40	40

[a] One of the five assignments in this category was unusually short, indirectly due to the change of administrations in early 1989.

Tour Length Exclusions

Table D-9

Category	Army	Navy	USAF	USMC	Total
Retirement	49	74	107	15	245
Separation	0	10	2	0	12
Suspension From Duty	5	1	4	0	10
Compassionate/Medical	15	5	2	1	23
Other Joint After Promotion	2	0	1	0	3
Deactivation of Unit	5	3	2	0	10
Joint Overseas	191	47	358	16	612
Joint Accumulation	33	0	0	0	33
COS Reassignment	68	29	19	7	123
Total	**368**	**169**	**495**	**39**	**1071**

Officer Distribution by Service (FY 1989)

Table D-10

	Joint Staff	Other Joint Duty	Total Joint Duty[a]	Total DOD (Percent)
Army	305	2814	3119 (36.2%)	35.3
Navy	237	1627	1864 (21.6%)	23.8
USMC	50	408	458 (5.3%)	6.6
USAF	339	2834	3173 (37.7%)	34.3
DOD	931	7721	8623	

[a] From Joint Duty Assignment List

Waiver Authority Use

Table D-11

	Army		Navy		USAF		USMC		Total		
Category	FG	GO	FG	FO	FG	GO	FG	GO	FG	GO	Total
A1	27	1	7	0	15	0	8	0	57	1	58
A2	42	0	3	0	23	7	13	4	81	11	92
B1	0	0	0	0	2	0	0	0	2	0	2
B2	42	0	3	0	23	7	13	4	81	11	92
C1	3	NA	0	NA	1	NA	11	NA	15	NA	15
C2	24	NA	13	NA	37	NA	13	NA	87	NA	87
D1	44	7	26	4	16	5	4	0	90	16	106
D2	792	39	358	17	748	32	122	9	2020	97	2117
E1	NA	2	NA	13	NA	17	NA	0	NA	32	32
E2	NA	42	NA	22	NA	32	NA	11	NA	107	107
F1	NA	2	NA	6	NA	1	NA	1	NA	10	10
F2	NA	30	NA	15	NA	17	NA	8	NA	70	153
G1	NA	18	NA	19	NA	33	NA	3	NA	73	73
G2	NA	30	NA	15	NA	17	NA	8	NA	70	70
H1	2098	69	842	65	1805	24	418	0	5163	158	5321
H2	42	0	3	0	23	7	13	14	81	11	92

1 = Waiver was exercised
2 = No waiver was exercised
Waivers include: (A) JSO sequence waiver, (B) JSO two-tour waiver, (C) waiver of post-JPME JDA assignment for JSO, (D) JDA tour length waiver, (E) CAPSTONE course waiver, (F) waiver for promotion to O-7, (good of the service), (G) waiver for promotion to O-7, (sci/tech, professional, joint equivalence, navy nuclear), and (H) temporary waiver provisions for award of JSO.

Critical Positions Summary

Table D-12

Category	Army	Navy	USAF	USMC	TOTAL
Total Positions	381	201	382	60	1024
Vacant	21 (6%)	15 (7%)	43 (11%)	0 (0%)	79 (8%)
JSO Filled	276 (72%)	140 (70%)	289 (76%)	45 (75%)	750 (73%)
Non-JSO Filled	83 (22%)	46 (23%)	50 (13%)	15 (25%)	194 (19%)
Percent JSO Filled Since 1 Jan 89	82	85	84	82	84

Reasons Above Positions Were Not Filled By Joint Specialty Officers

Position filled by incumbent prior to being a joint position	68
Position being converted to a non-critical position or being deleted	8
Joint Specialist Officers not available	15
Best Qualified Officers not a Joint Specialist	18
Position filled by incumbent prior to being a critical position	47
Other	38
Total	194

JDA Positions Not Filled by Joint Specialists

Table D-13

The following joint organizations have joint duty billets not filled by joint specialists:

Organizations	JDA Positions Not Filled By JSOs
Office of Secretary of Defense (OSD)	8
Defense Nuclear Agency (DNA)	2
Defense Mapping Agency (DMA)	5
Defense Logistics Agency (DLA)	6
Defense Communications Agency (DCA)	12
Defense Intelligence Agency (DIA)	15
Defense Attaches	2
National Security Agency (NSA)	5
Defense Mobilization Systems Planning Activity	1
US Atlantic Command (USLANTCOM)	5
US Central Command (USCENTCOM)	11
US European Command (USEUCOM)	14
US Pacific Command (USPACOM)	21
US Southern Command (USSOUTHCOM)	9
US Special Operations Command (USSOCOM)	2
Joint Special Operations Command (JSOC)	1
US Transportation Command (USTRANSCOM)	2
NATO Military Committee	1
Allied Command Europe (ACE)	20
Allied Command Atlantic (ACLANT)	8
HQ North American Aerospace Command	6
Combined Field Army (CFA)	3
Joint Staff	22
National Defense University (NDU)	4
Joint Strategic Target Planning Staff (JSTPS)	4
Joint Warfare Center (JWC)	1
Joint Doctrine Center (JDC)	1
Military Entrance Processing Command (MEPCOM)	1
Total	**194**

STATEMENT OF GENERAL COLIN L. POWELL, USA, CHAIRMAN, JOINT CHIEFS OF STAFF

General POWELL. Thank you, Mr. Chairman. It is a pleasure to appear before the committee for the first time since my confirmation and I look forward to working with the committee in the months and years ahead.

Mr. Chairman, you mentioned the Net Assessment, and I wanted to let you know that we have completed, within the Joint Staff, the Joint Military Net Assessment that is required.

Chairman NUNN. General, could you pull that mike up a little bit. You have to be pretty close to it.

General POWELL. We have completed the Joint Military Net Assessment that is required by law, and this week I will be signing it out to the Secretary and I expect it will be available for the committee's consideration within the very near future.

In my prepared statement, which I would like to offer for the record, I summarize the Joint Military Net Assessment, and I will say a few words about it in my opening remarks.

Mr. Chairman and members of the committee, the Joint Chiefs of Staff (JCS), the commanders in chief (CINCs) of the unified and specified commands and I have worked very closely with the Secretary of Defense in recent months to help shape this year of transition which I believe is the proper characterization of fiscal year 1991.

As we went about that we really saw two forces pushing us. The first set of forces had to do with a point you made earlier, Mr. Chairman, that for the last 6 years we have seen negative real growth in our budget. We had no expectation—no reason to expect that that change would be reversed. So it was incumbent upon us as the senior military advisers to the President and to the Secretary of Defense to begin pointing in the direction of how we should take these reductions in the future.

We did not want to participate in phony real growth projections any longer, and we were delighted when the Secretary gave us the necessary guidance to begin to see the future with clarity and reality, and at the same time we also saw the rapidly changing environment in the world, the significant changes that were taking place in Eastern Europe, and we knew that we had to adjust to those changes.

The JCS, the CINCs, and I recognize that we have to participate aggressively and actively in the restructuring and reshaping of our Armed Forces that are required. We welcome it and we look forward to it, but at the same time, in this fascinating and very challenging environment, there are certain enduring truths that we dare not overlook.

The first of these that the Secretary has covered very, very well, is that the Soviet Union will remain a military superpower regardless of what happens, regardless of what the nature of the transformation that is taking place is, or where it ends up.

The Soviet Union, restructured, reformed, perhaps less offensive, nevertheless, will be a military superpower and remain the only nation on the face of the earth with the military capability to de-

stroy the United States. We could never, never erase that from our consideration and our thinking.

We also must remember that we are a superpower, and notwithstanding what happens in Europe and in our relationship with the Soviet Union, we have worldwide interests beyond Europe and we must have the necessary forces and strength to deal with those interests.

As has been mentioned, we are the leader of great alliances both in the Atlantic and the Pacific. We are the hope of the Third World. To lead and to provide hope we must remain strong, and we must remain faithful to our collective alliances. The world may be less threatening but it is also, I believe, at the moment less stable, and there is a great deal of uncertainty in the world.

With respect to Net Assessments, I would like to touch on just a few areas to follow up on some points that the Secretary made as well as to summarize what is in the prepared document that we will provide to you, Mr. Chairman. The greatest challenge we have is assessing the direction, scope and pace of the changes we see in Soviet military strength. On the one hand, I see convincing evidence that President Gorbachev intends to carry through his plans for unilateral cuts for reducing the more threatening aspects of his forces and for achieving arms control breakthroughs. I completely agree with the assessments that were given to you last week by the intelligence community on this subject.

Conversely, it is also clear that he intends to take every opportunity to make virtue out of the necessity to restructure. Thus, even as Soviet unilateral troop cuts in Europe proceed apace, much of the residual equipment is serving to modernize remaining units. While forces are being withdrawn into the Soviet Union, a process which may well accelerate in the months ahead, their long-term status is unknown, and there can be no doubt that Soviet military planners will make the case for a sizable reserve and a credible mobilization capability.

Moreover, despite the promise of the START agreement in 1990, the Soviets' stable, long-term strategic modernization program will produce a daunting nuclear force that exists today and will continue to be a daunting nuclear force in the future, a force that will be modern and very, very capable. The Soviets for some time have been shaping their strategic nuclear modernization program to be compliant with future START Treaty constraints, and we can expect continual upgrading of their ICBMs, SSBNs and bombers throughout the coming decade. Such upgrading will make these systems increasingly accurate and place our forces, our strategic forces, at increasing risk. Soviet forces will also be more survivable.

Today, the Soviets have already deployed a significant number of their planned rail-based SS–24s and their road-mobile SS–25 mobile systems. As you well know, we have yet to field a mobile system with comparable capability, and by the mid to late 1990s, Soviet mobile systems could well comprise one half of their total ICBM force. To continue to provide a credible deterrent, we also need mobile missiles and systems such as B–2 that are capable of holding at risk the Soviet mobile missiles.

The Soviets have also constructed an impressive array of strategic communications facilities and both hardened and mobile com-

mand posts. In addition, they have continued to modernize their treaty-compliant Moscow ABM system, consisting of radars and two classes of missiles. These improvements, coupled with their robust air defense system, mean we will have to modernize our own systems so they can reach potential targets with the assurance we require.

Soviet space programs, as well, on balance, are geared more toward warfighting than our own space programs. Their systems are expected to continue to improve, even at potentially reduced rates. As you know, we are only now taking steps to realize similar capabilities. To ensure our access to space, and to deny a haven in space to any enemy in time of crisis, we need the anti-satellite program that is under development.

In assessing conventional forces in Europe, non-Soviet Warsaw Pact nations, as you know currently furnish 40 percent of the forces in the central region and 50 percent of those forces in the southern region. Thus, considering the new political orientation of non-Soviet Warsaw Pact nations, our judgments clearly accept a significant reduction in Pact capabilities as well as a dramatic diminution of the likelihood of East-West hostilities.

Even taking into account the current political upheaval, as well as, Soviet unilateral reductions, considerable conventional force asymmetries remain and will remain for some time to come.

As you know, Mr. Chairman, our estimates of warning time in Europe are changing for the better, and we expect further improvements as unilateral reductions are completed and as the non-Soviet members of the Warsaw Pact continue to go their separate ways. We also look toward CFE negotiations to codify reductions and therefore assure a wholesale permanent change in the entire European security picture.

The salient question is: When will it be prudent to translate these hopes and assumptions into solid planning factors? When that time comes, I anticipate we will be able to make historic, permanent changes to the defense posture that has brought these fundamental changes, historic changes, to Europe.

In the Pacific, it is unlikely that the Soviets would initiate hostilities which threaten our interest. Much of Soviet attention will remain focused on their bilateral concerns with China. As a part of their general force reductions, the Soviets have begun to draw down land and air forces in Mongolia, throughout their eastern district and at Cam Ranh Bay in Vietnam.

Additionally, the readiness of the Soviet Pacific Fleet will decline somewhat as older ships are retired. Similarly, their fleet out-of-area deployments will continue to decline. This said, their naval capabilities in the Pacific will continue to pose a potential threat to U.S. security interest in the region.

On the Korean Peninsula, although there have been signs of a desire to talk, dialogue thus far between Seoul and Pyongyang has done nothing to convince us that the North Koreans want to change the fundamental confrontational relationship that has existed for these many years. They continue to maintain formidable armed forces, but our assessment is that the U.S.-Republic of Korea security relationship will continue to deter aggression on the peninsula.

In other theaters, Mr. Chairman, in the Middle East, Southwest Asia, and in our own hemisphere, I believe the Net Assessment is such that we have the forces necessary to deal with possible contingencies in those regions. This is just a brief summary of what you will find in the broader Net Assessment that we will submit for the record.

I would like to say a word to follow up on what the Secretary said with respect to the strategy that one should begin to structure as you look at this Net Assessment and as you look at the changing world situation. Is it new, is it old, is it a revised one?

You can call it what you will, but I believe it must contain certain fundamental elements. We must recognize first and foremost that deterrent strength is the key to peace. We should never let any adversary doubt our peaceful intention. At the same time, we must never let any adversary doubt our willingness to bear arms in our defense, and we must never let any adversary question the strength of those arms.

We must remain faithful to our friends and allies who have collectively stood with us for 40 years. To break that faith would surely put our gains at risk and fail to secure the promise that we see for the future. We must always, Mr. Chairman, be prepared for the crisis that no one expected and the contingency that no one planned for.

So what does this mean for our Armed Forces as we enter this last decade of a most turbulent century? We will get smaller. The Chiefs know that, I know that. The commanders in chief of the unified and specified commands know that.

We can do so, and we can do so with no additional risk to our Nation or to our security. We can cut structure, we can cut bases, we can cut back in the infrastructure that we have had for the last 40 years.

I would also make the point that our strategic forces must be modernized. They must be modernized to continue to deter a modernized Soviet force that is getting better with each passing day.

In every conversation I have had with senior Soviet officials, not one has suggested perestroika or glasnost has hit strategic force modernization programs in the Soviet Union. Quite the contrary. They simply do not talk about it.

They consider those systems their crown jewels. We should consider them likewise and support the President's program on strategic modernization. As the Secretary has said, we must still defend forward in Europe and in the Pacific.

We recognize we will do this at lower levels. We recognize that we can bring home some of the forces that we have had overseas, particularly as we see the conventional force treaty completed and entered into the force. We must have reinforcing and mobility forces, however, to back up our forward deployments. You will hear us make a strong case for making the necessary investment into our airlift and sealift forces.

Finally, we must always have contingency forces. The kinds of forces that will deal with the unknown, the kinds of forces that will always be ready to go, proud to go, and able to accomplish the mission successfully, such as we did in Panama recently. That

comes from supporting those forces with operating funds, training funds, and making sure that they are always ready.

We must also have modern weapons, and we must invest in the future to ensure that we always provide the men and women of our Armed Forces the very best equipment we can, and most of all, Mr. Chairman, the one thing we must not do is drop the quality of the force, or allow it to drop. We must make sure that the kind of men and women who are serving proudly in their Armed Forces now remain proud to serve because we are taking care of them, because we are providing them the wherewithal they need.

Now, I recognize we have to get smaller. This is a transition year. I hope, Mr. Chairman, we will not go to a roller coaster in the other direction as we get ready for the future, and I look forward to working with the committee and with the other committees that we will be dealing with to go through this transition year and to show you the direction for the future shape and structure of our Armed Forces over the next 5 or 6 years.

Thank you, Mr. Chairman.

[The statement of General Powell follows:]

PREPARED STATEMENT OF GEN. COLIN L. POWELL, USA, CHAIRMAN OF THE JOINT CHIEFS OF STAFF

INTRODUCTION

Mr. Chairman and members of the committee, thank you for the opportunity to testify on America's military posture in connection with your hearings on President Bush's defense budget.

The images of the past 13 months or so have so captured the world's attention that it is almost a platitude for me to conclude that these are the most exciting times in forty years. The Free World has persevered, held out its values for all to see, kept its strength throughout calm and tumult, and now the prospects for the future are enticing, exhilarating, and may constitute a fundamental turning point in human history.

In some ways, I compare our current situation to the immediate post- World War II period. We and our allies had settled the balance of power in the world in a manner made possible by our tremendous systemic strength. But the more complex and difficult challenge lay ahead of us—how to manage the transition to peace and the peace itself. Some people assumed that such a resounding victory as we had achieved would automatically produce peace. Today we know that no proposition could be further from reality: there is no automaticity to peace whatsoever. Peace comes—and stays—when free people are strong and ready.

Today's domestic climate is not too dissimilar from the climate created by our overwhelming World War II victory. Some people are poised to make decisions calling for the precipitous dismantlement of the very strength that brought the prospects for peace. We know that this year, and for the next few years, we will engage in a great struggle to determine whether we will repeat failures of the past and cause this dismantlement or, having learned our lessons, continue to maintain the needed strength to avoid putting America at risk.

Our eyes are open. Indeed, to remain blind to the change in the world would be an egregious and unpardonable mistake. The Secretary and I know the Department will get fewer funds, we know the Armed Forces will be decreased in number and that the Department will shrink. We know also that the risk of making these changes is acceptable, that the Nation cannot afford to do otherwise. But we must not shatter the Armed Forces. We must not make them a shadow of strength. We must not devastate what we have invested so much of our treasure to build during the past decade.

Secretary Cheney and I began our efforts with an eye to history, current events, and with a view to the future. But not with a view to dissolving America's strength. I took my present job in the hope that I could help shape our Armed Forces for the future challenge, not to demobilize them precipitously and weaken our position in the world. The Soviets have not made the mistake of equating withdrawal and restructuring with disarming, and neither should we.

MILITARY STRATEGY AND POSTURE

Our military strategy is designed to safeguard and promote enduring national interests—and it is working dramatically well. Those interests are unchanged by the volcano of events in the world:

The survival of the United States as a free and independent nation;

The continuance of a healthy and growing economy that provides opportunity for individual prosperity and a resource base for our national endeavors; and

The maintenance of vigorous alliance relationships that bolster forward defense of the United States, secure our allies, and collectively maintain peace with freedom in the world.

Basic Objectives

Two of our national defense policy's basic objectives are:

To deter military attack against the United States, its allies, and other important countries; and to ensure the defeat of such an attack should deterrence fail; and

To increase U.S. influence around the world, to further an atmosphere conducive to democratic progress, and to protect free commerce and ensure U.S. access to world markets, associated critical resources, the oceans, and space.

These objectives remind us that America cannot choose between military security and economic security. The two are inextricably intertwined. On a smaller but similar scale, the peaceful trade and economic prosperity of a city is dependent on the vigilant presence of the local policeman as much as it is on the ebb and flow of the vitals of commerce. No city mayor would consider abolishing his police force because were he to do so, the city's peace would soon dissolve and disappear.

Military Posture

Our global military posture is designed to keep the peace. The presence and readiness of our Armed Forces, here and overseas, prevents small crises from becoming big ones, deters major hostilities, reassures allies, and provides for dealing with unforeseeable contingencies wherever they may arise.

We try to keep these Armed Forces balanced. Balanced in terms of the strategy we call upon them to implement, the possible enemies they may have to contend with, the technology we can provide them, and the dollars available to raise, maintain, provide for, and sustain them.

We try to keep them balanced also in the sense of quality people, superb training, a high state of readiness and a pride in service to the Nation.

And, with all of the foregoing in mind, we try to keep them balanced in terms of how they are divided between the Active and Reserve components.

In the world environment of the present and the foreseeable future, a durable consensus on the amount of dollars needed to support these efforts and these forces is essential to keep risks at an acceptable level.

THE DRAMATICALLY CHANGING WORLD SCENE

We are witnessing today the long-term success of policies we put in motion over forty years ago. Mid-term success produced a vibrant, cohesive, and dynamic Western Europe out of the utter devastation of world war. Among those nations at the forefront in that resurgent Europe was a democratic West Germany. Implacable foes became the closest of allies, marking one of the most extraordinary transformations in history.

Today, the long-term effects of that success are breathtaking to watch—from the collapse of the Berlin Wall to the potential for the ultimate democratization of Eastern Europe. The systemic crisis of our principal adversary, the Soviet Union, is the immediate catalyst for this historic and dramatic change but we and our steadfast allies provided the chemistry to which the catalyst was applied.

Though the spellbinding changes in Europe rivet our attention, there is much more on the horizon as well. In Asia, Japan was our archenemy in December 1941 and for almost four bitter years thereafter. Today Japan is an economic and democratic goliath and one of our closest allies. Again, our policies and our strategy following the devastation of World War II brought this transformation about. The bilateral security relationship between the United States and Japan has been a principal ingredient in the chemistry that produced the changes sweeping the globe today.

The march toward democracy and freedom seems inexorable. In Africa and Asia, in Europe and in Latin America, the principles our founding fathers brilliantly encapsulated in our two most famous documents, the Declaration of Independence and the Constitution with its Bill of Rights, seem to be on the lips of a remarkable ma-

jority of the world's peoples. Our founding fathers would find no mystery in this, merely the confirmation of their fondest hopes and their firmest beliefs.

Soviet Military Power in Transition

To give credit where credit is due, a Soviet leader of considerable vision and daring has set the stage for much of this sweeping change. President Gorbachev has embarked on a difficult course to renovate and repair the Soviet system. It is a formidable task and we wish him well. But we know a part of that system he wishes to renovate and repair is the Soviet military establishment.

President Gorbachev has no intention of demobilizing the Soviet military. The four tenets of President Gorbachev's plan for his military are withdrawal, reductions, and—we must not forget—restructuring and modernization. The end result will not be a demobilized military but a smaller and more modern force. These Soviet intentions present the United States with both opportunities and challenges—opportunities to reposture and restructure as a longstanding threat recedes, and challenges to sustain the nation's military strength in an emerging security environment of enormous complexity.

Throughout this promising but turbulent transition from an era of singleminded pursuit of containment, to an age of proliferating threats, I, as the Commander in Chief's principal military advisor, must stay focussed on the continuing reality of an enormous Soviet military capability. I cannot afford to be distracted by Soviet charm or sudden openness or the present disarray in the Soviet economy—even as I hope and plan for the prospects of a genuine, irrevocable reversal in Soviet foreign policy and all the advantages that such an outcome would bring to the world.

Equally important, I must devote increasing attention to the plain and simple fact that we as a superpower have grave responsibilities in the world, and to the realization that America offers the greatest hope to those peoples still oppressed.

And as I focus on these world realities and set about helping the Secretary of Defense to restructure the Armed Forces, I will not put America at risk. I never want to return to that leisurely, comfortable "From Here to Eternity" attitude of the 1930s that helped invite global conflict to an unsuspecting world.

NET ASSESSMENT

That being said, however, I cannot imagine a more challenging environment in which to set about the task of reshaping America's Armed Forces.

Nowhere is the challenge greater than in assessing the direction, scope, pace and momentum of the changes in Soviet military strength. On the one hand, I see convincing evidence that President Gorbachev intends to carry through his plans for unilateral cuts, for reducing the more threatening aspects of his forces and for achieving arms control breakthroughs. Conversely, it is also clear that he intends to take every opportunity to make virtue of necessity.

Thus, even as Soviet unilateral troop cuts in Eastern Europe proceed apace, much of the residual equipment is serving to modernize remaining units. While forces are being withdrawn into the Soviet Union—process which may well accelerate in the months ahead—their long-term status is unknown. And there can be no doubt that Soviet military planners will make the case for a sizable reserve and a credible mobilization capability. Moreover, despite the promise of a START agreement in 1990, the Soviets' stable, long-term strategic modernization programs have produced a daunting nuclear force posture—and will continue to do so.

These and other ambiguities make capability comparisons especially difficult. Nevertheless, as directed, the Secretary of Defense will provide Members of Congress a Joint Military Net Assessment (JMNA). It is in the final stages of approval. Here I want to emphasize several points from that assessment.

As I noted, the Soviets have for some time been shaping their strategic nuclear modernization program to be compliant with future START Treaty constraints. We can expect continual upgrading of ICBMs, SSBNs, and bombers throughout the coming decade. Such upgrading will make these systems increasingly accurate and place our forces at increasing risk. Soviet forces will also be more survivable—making ours less effective. Today, the Soviets have already deployed a significant number of their planned rail-based SS–24s and their road-mobile SS–25s. As you well know, we have yet to field a mobile missile with comparable capability. By the mid to late 1990s Soviet' mobile systems could comprise one-half of their total ICBM force. To continue to provide a credible deterrent, we also need mobile missiles, and systems such as the B–2 that are capable of holding at risk these Soviet mobile missiles.

The Soviets have also constructed an impressive system of strategic communications facilities and both hardened and mobile command posts. In addition, they have

continued to modernize their treaty compliant Moscow ABM system consisting of radars and two classes of missiles. These improvements coupled with their robust air defense systems mean we will have to modernize our systems so they can reach potential targets with the assurance we require.

On balance, Soviet space programs are geared more toward warfighting than ours. Their systems are expected to continue to improve, but at potentially reduced rates. To complement their existing on-orbit space systems, the Soviets have the capability to place additional systems on orbit quite rapidly. Moreover, they have a credible capability to conduct ASAT operations. As you know, we are only now taking steps to realize similar capabilities. To ensure our access to space and to deny a haven in space to any enemy in time of crisis, we need the ASAT program that is under development. Although our space programs are generally oriented toward peacetime activities, initiatives are underway to improve our capabilities across a broad range of conflict. Specific improvements are being applied in the general areas of launch and satellite system performance, reconstitution and survivability, as well as in ground-based surveillance for space control.

In assessing conventional forces in Europe, we noted that Non-Soviet Warsaw Pact nations currently furnish 40 percent of the forces in the Central Region and 50 percent of those in the Southern Region. Thus, considering the new political orientation of the non-Soviet Warsaw Pact nations, our judgments clearly accept a related reduction in Pact capabilities as well as a dramatic diminution in the likelihood of East-West hostilities. But, while taking into account current political upheaval, as well as Soviet unilateral reductions, we noted that considerable conventional force asymmetries remain and will for some time to come. During this process of restructuring, the Soviets have been using some of the equipment they have removed to make other units more capable and, although they have reduced tank production this year by about half, they continue to outproduce us. Production of new and more capable aircraft and ships continues at a vigorous pace. Equally important, the Soviets are producing equipment whose sophistication rivals our own.

As you know, our estimates of warning time in Europe are changing for the better and we expect further improvement as unilateral reductions are completed and as the non-Soviet members of the Warsaw Pact continue to go their separate ways. We also look toward CFE negotiations to codify reductions, withdrawals, and verification measures and, therefore, virtually assure a wholesale change in the entire European security picture. We are now engaged in a reassessment of warning time, planning factors, and other important variables, but significant unknowns exist. The salient question, in my view, is when will it be prudent to translate hopes, assumptions, and what appears to be an increasingly defensive military orientation, into solid planning factors. When that time arrives, I anticipate we will be able to make historic—and perhaps permanent—changes to the defense posture that has brought historic change to Europe.

In the Pacific, it is unlikely that the Soviets would initiate hostilities which threaten our interests. Much of Soviet attention will remain focused on their bilateral concerns with China. As a part of their general force reductions, the Soviets have begun to draw down land and air forces in Mongolia, throughout the Eastern TVD, and at Cam Ranh Bay. Additionally, the readiness of the Soviet Pacific Fleet will decline somewhat as older ships are retired. Similarly, their fleet out-of-area deployments will continue to decline. This said however, their naval capabilities will continue to pose a potential threat to U.S. security interests in the region.

On the Korean Peninsula, although there have been signs of a desire to talk, the dialogue thus far between Seoul and Pyongyang has done nothing to convince us that the North Koreans want to change the confrontational relationship. They continue to maintain formidable armed forces, but our assessment is that the U.S.-Republic of Korea security relationship will continue to deter aggression on the peninsula.

In other theaters we can continue to meet our requirements. I believe the recent operations in Panama ably demonstrate our capability to respond rapidly to crisis. But I am not overly optimistic about Third World developments in general. Debt, poverty, fragile democracies and internecine struggles will continue to generate both turmoil and tragedy and thus challenges to U.S. interests. In particular, drug-trafficking, insurgency and terrorism will command ever increasing attention and resources. And the chilling facts are that in today's world, the proliferation of sophisticated weapons adds a new and unknown dimension to what were already vexing security problems.

The uncertainties imbedded in these and other assessments lead me to three fundamental conclusions. First, the Soviet Union will remain a military superpower. As such, Soviet armed forces will possess vast potential regardless of the increasingly

benign stated intent of the Kremlin. And that potential will remain should intentions change.

Second, and relatedly, until the profound transformation in the Soviet system is firmly rooted in democratic institutions—and it most assuredly is not at present—we would court inordinately high risks if we made irrevocable changes to the foundation of our military strength. It is still too soon to make sweeping changes to strategy, force structure and posture, and modernization. There is simply too much risk in such precipitous change. Eastern Europe—and even the Soviet Union itself—may be changing at an incredible rate, but that is certainly no reason for NATO to do so. Instead, it is sound reason to move but to avoid haste. The Soviets are in the throes of a second revolution. Because of this, we are engaged in a hopeful but as yet uncertain transition to new international security relationships.

Third, other threats to American interests do not disappear because of a retrenched Soviet Union. The problems we are likely to confront in the rest of the world in the 1990s keep me from any inclination to pronounce the end of history.

In this period of remarkable world change and its attendant instability, it is important that we and our allies continue to provide an overarching framework of stability. Thus, the fundamentals of our national military strategy remain sound. We must continue to provide a credible strategic deterrent through a modern TRIAD, protect our interests globally, retain a highly mobile and ready force for crises and contingencies, and through all of the coming restructuring avoid foreclosing options for hedging against a new or renewed threat.

THE ARCHITECTURE OF THE ARMED FORCES

With this backdrop, let me tell you about some of the issues we grappled with as we began the process of reshaping the Armed Forces of the United States:

The Inescapable Reality of Nuclear Weapons

No matter how much the most optimistic dreamer amongst us may wish it, we cannot disinvent nuclear weapons. We can try to defend against them—in the not too distant future, perhaps decisively so—and that is why we must keep pushing our Strategic Defense Initiative. As otherwise Americans have said, it is inconceivable that any sane person would want to opt for mass destruction over meaningful defense as the most desirable strategic deterrent.

Since we cannot disinvent nuclear weapons, nor for the time being offer an effective defense, it is axiomatic that we must keep our strategic deterrent modernized and ready. The only way the Soviets can destroy us in 30 minutes is with their strategic nuclear weapons. We must deter the use of those weapons. We must have a triad of air, land, and sea-based nuclear weapons that represents state-of-the-art capability so that no Soviet leader would ever contemplate using his nuclear arsenal against us.

Conventional Forces For Forward Defense

In areas critical to our interests we must be able to conduct and support forward defense. In Europe, in Japan, on the Korean Peninsula, in the Philippines, in Southwest Asia, and in Latin America, U.S. forces constitute the primary deterrent to conflict in the region. Our forward-deployed forces also constitute the leading edge of the capability to execute our military strategy should deterrence fail. Moreover, our forward-based troop and aircraft deployments and continuous naval presence in key areas demonstrate to our allies, our friends, and our adversaries that our commitment in the region is rock solid.

Our capability to reinforce these forward-deployed forces is also fundamental to deterrence and, should it fail, to warfighting. We can adjust the timetables for reinforcement based on a careful assessment of the various threats, but we must not dismantle the procedures, the mechanisms, nor the forces that reinforcement requires.

Conventional Forces for Crises and Contingencies

In the first 10 weeks in my job as Chairman, I received ample proof of the need for conventional forces. I helped the President and the Secretary with crises in Panama, on the border of Nicaragua and Honduras, in El Salvador, and in the Philippines. I am well aware of the leverage that military forces provide in such circumstances. Perhaps more so, I can sense the nakedness our national leaders would feel were they to lack such an instrument. We do not want to be in the situation where we watch a crisis erupt and grow and our only reaction is, finally, mobilization for the war that the crisis eventually produces.

The war plans maintained by our warfighting CINCs around the globe are not simply aimed at the Soviets. Certain plans are aimed at a particular threat to U.S. interests that might foreseeably develop in specific areas of the world. Each such plan has a complement of military forces that is intrinsic to it's successful execution. In our recent operations in Panama, the Members of Congress, our friends and our potential adversaries witnessed a dramatic example of the capability of our conventional forces to execute our plans. In this case, it became increasingly clear that to protect the interests of both the United States and Panama, we needed to act. We deployed significant conventional forces and successfully carried out the contingency operation and, at the same time, prevented a potentially larger crisis. In short, we protected American lives and restored to power the duly elected leaders of Panama.

Conventional Forces for the Drug War and for Anti-Terrorism

As you are all aware, I believe the American people want the Armed Forces to participate in the war on illegal drugs. I believed this when I was the Commander'in Chief of Forces Command and I continue to believe it now. Impacting the flow of drugs into the United States is not a mission we will accomplish to the satisfaction of the American people in a brief period of time. We are in this one for the long haul. Acting always in accordance with the laws and traditions of our Nation, we can make a significant contribution and we are planning to do so.

As for terrorism, we all hope that scourge goes away or at least diminishes. But we all know that for the time being it probably will continue to haunt us. While military force is only infrequently the right answer to terrorism, under certain circumstances it can be. We do not want to lose the option to exercise it should those circumstances arise.

Strategic Mobility

I cannot speak of conventional forces in crisis management, contingencies, or counterterrorist actions without stating the requirement for the strategic means to get those forces to the scene of battle. We must have the aircraft and the ships to get our forces to the action. The less our forces are forward-deployed, the more efficient and effective these ships and aircraft must be.

Space

The importance of space to our modern Armed Forces is growing daily. At present, we would be hard-pressed to retain the precision and timeliness of our ability to react to crisis o· to control contingency operations, without our space assets. We would be equally hard-pressed to accomplish necessary surveillance and verify arms control treaties and agreements without our space assets. Space is not yet indispensable to all our military operations, but it is rapidly growing in import.nce.

A GLOBAL PERSPECTIVE WITH REGIONAL REALITIES

As I told General Moiseyev and my Eastern and Western European counterparts in Vienna several weeks ago, the United States has global responsibilities. We cannot afford to become myopic nor to focus on a single portion of the globe. We are a superpower and the leader of the Free world. With that position go certain realities.

Europe

Europe remains our first order of business. Despite the sweeping change there, certain realities endure. While we will reduce the number of our forces in Europe, there is nothing whatsoever on the horizon that indicates to me that we can disengage from the continent entirely.

NATO will remain an important alliance well into the future. No one in Europe views the U.S. presence there or the NATO alliance as an anachronism. They view both our presence and the alliance as the needed ingredients for stability and for the fulfillment of their and our political vision of a Europe whole and free. Because it is an alliance of nations with common values and aspirations, its foundation is far firmer than its military dimensions might suggest. At the same time, however, our Armed Forces in Europe are our commitment to stay. Our Armed Forces signal to the Europeans that we are in the contest for the long haul, that our endurance is sufficient to ensure a genuine peace. In short, our Armed Forces tell the nations of Western Europe that we are sincere when we say we are defending the United States and the Europeans by being in Europe. Successful alliances are built on shared hopes and values. They are sustained by these things too but not without military power. It is helpful to remember that a central tenet of the NATO alliance

has always been: strength without dialogue is politically untenable, but dialogue without strength is morally—and literally—indefensible.

Our destiny, now and in the future, is wrapped up in the destiny of Europe. Essentially, that has been true since the first colonist set foot on this continent almost four centuries ago. That is an enduring reality.

East Asia and the Pacific

For what is essentially an economy of force operation in the Pacific and Asia, the United States has purchased peace, prosperity, stability, and democratic progress in the region for the past 15 years. For a pair of forward-deployed Army divisions, a single numbered fleet, the equivalent of four tactical fighter wings, some Marine air-ground task forces, and a carefully constructed security assistance program, we have done all this. Japan has become the economic engine of the Pacific and much of the world. South Korea has a phenomenal economic growth rate. Thailand is prospering and with the Vietnamese out of Cambodia, will likely move ahead with amazing speed. The Philippines, with fits and starts, is still practicing democracy. The failures in the area are few and on the other side: North Korea and Vietnam. And even they show signs of waking up, signs that they are listening to—as a minimum—the call of open markets.

We cannot afford to disengage in a major way from this region of the world. We have won too much. Our friends and our allies do not want to see us disengage. They know that politics and nature abhor a vacuum and that into the power vacuum created by major U.S. disengagement from the region would flow only God knows what. They trust the United States in matters of gravest importance and they do not want us to abandon the region.

We have fought our last two major wars in the Pacific, and we had a crisis there—in the Philippines—about 2 months ago. To disengage in a major way, to remove all our Army, our Air Force, our Navy, and our Marines and go home, would see us coming back in the future under far less desirable circumstances; or, worse, losing the inclination to return and with that loss, forfeiting our access to the economic might supporting our superpower status. These are the enduring realities of the Asia and Pacific region.

The Middle East and Southwest Asia

We still patrol the Persian Gulf. We still provide military forces to the multi-national peacekeeping force in the Middle East. We still have security relationships with nations in the region. We still get a large amount of oil that passes through the Strait of Hormuz, and so do our allies. Iran and Iraq, without a peace treaty, still stand and eye each other warily. They are armed to the teeth. Iraq alone has over 1,000 first-line tanks and battle-hardened tankers to man them. These are all enduring realities in this region.

We have made our work easier in this critical part of the world. Operation Earnest Will, our escort of U.S.-flagged tankers in the Persian Gulf, and the associated military operations, helped create more confidence in the United States. The Gulf Cooperation Council states now have increased faith in America and have responded accordingly.

Moreover, new realities may be in the making. A more cooperative Soviet Union, a more tractable PLO, a war-weary region, a Syria without strident Soviet support, and so on, may bring about change. But for the moment and for the near future, these are realities we hope for. Meantime, the old realities endure. Indeed, they are perhaps the oldest realities with the greatest endurance of any in the world. We simply cannot afford to ignore them. We do so at extreme peril to our own livelihood, that of our allies, and certainly that of the state of Israel.

Latin America

In our own hemisphere, I have had the most pressing crises of my first 4 months on the job. The conflict in El Salvador is to the Salvadorans a full-scale war and demands our daily attention. A freely elected, democratic government is threatened by communist insurgents supported by other governments. On the borders with Nicaragua, there is constant tension as Honduras and Costa Rica watch the largest army in this hemisphere outside the United States go through its daily routines. And the democratically-elected government in El Salvador looks across the Gulf of Fonseca and sees this same Nicaragua sending arms to the insurgents in El Salvador. And in Panama, at the close of 1989 we found it necessary to translate our previous longstanding diplomatic and economic efforts into military force, or risk more American lives and a deteriorating situation in an area of great interest to the nation. We chose to use force and, as a result, we have put our diplomacy and our

economic efforts back on track and given Panamanians solid hope for a future of freedom and democracy in their nation.

In summary, Latin America will continue to demand our attention. The rapid procession toward freedom and democracy and civilian governments is still resisted by forces whose chief motivation in the world, communism, is dying fast. Adding to this resistance are the realities of a huge debt, a somewhat dismal economic environment, and the omnipresent greed of narco-traffickers. We cannot afford to allow this regional procession toward democracy, every bit as marvelous as the one in Eastern Europe, to succumb to these pressures.

A VIEW TO THE FUTURE

In 1985, Mr. Chairman, you and your colleagues in both houses began to tell the Department of Defense that we were going to spend less on the military. This was before Mr. Gorbachev's charm and enlightened self-interest took the world by storm, and before any announcement of substantial Soviet reductions in their military forces. Since that time we have had no real growth or a real decline in every annual budget. Because of other pressing domestic demands on our national resources, that was a reasonable approach to doing business.

Now that we do have a certain reduction in the Soviet military threat, albeit a fairly small one in terms of capabilities, it is reasonable to continue that approach. It is not reasonable nor wise, nor very safe for this Nation, to draw down our Armed Forces precipitously and I am opposed to any such extreme approach.

When people ask me if we have a strategy for the future I tell them that we most assuredly do. It is a strategy based on the enduring realities I have described to you, on the continuing quite capable military potential of the Soviet Union, on the changed public consensus on defense spending, and on the determination that America shall not cease to be a superpower. It is a strategy that has about it nothing of the Soviets' desperation. They have created a one-dimensional superpower, a Third World nation with a First World military force. They are re-examining their alliances, sending mixed signals to their client states around the world—who are losing too—and they are retrenching in key areas so they ban eventually achieve multi-dimensional superpower status. We, on the other hand, are seeing our post-war strategy vindicated. Our strategy must evolve to accommodate both our victory and the Soviet desire to change, no matter how that desire turns out in reality. Our strategy must not abandon the victory nor compromise its completeness.

What emerges from this evolutionary approach to changes in our defense posture is a reshaped but balanced military that can do the things that have to be done to keep America from unacceptable risk. What emerges from my analysis of the military forces needed to implement the first stage of this evolutionary approach is the President's fiscal year 1991 budget.

THE DEFENSE BUDGET FOR FISCAL YEAR 1991

The President's budget for the Department of Defense in fiscal year 1991 recognizes the dramatic changes in the world and projects a prudent, corresponding and long-term reduction in the U.S. military. The budget projects real declines in spending, at roughly 2 percent per year, in 1991 and the years which follow. The 1991 budget will bring the total real decline since 1985 to 16 percent. As you know, because of this decline we have already removed some force structure, brought a halt to improvements in readiness and sustainability, and deeply reduced modernization programs.

Secretary Cheney and Deputy Secretary Atwood have made real progress in identifying management changes and efficiencies which will help offset funding reductions and help us buy defense capabilities more economically. Even so, as Department funding continues to decline, each year will bring some substantial cuts in our military capabilities—smaller force structure, base and facilities closures, and elimination of acquisition programs. I have worked closely with the Secretary to pinpoint where these cuts should be made in the 1991 budget adjustment. We are still working on where the additional cuts should be made in our overall fiscal year 1992-1997 program.

As the Secretary and I worked these matters, we determined that our foremost priority is that we preserve the force quality that we have so carefully nurtured during the last decade. This quality has two vital elements: trained, ready and proud people balanced with modern, effective weapons systems. Thus, in the fiscal year 1991 budget we have eliminated the lower priority acquisition programs and portions of the force structure to preserve the high quality of what remains. In the world we face today—and that we calculate we will face next year—we are satisfied

our efforts will provide the Nation a military establishment capable of accomplishing national security objectives.

The 1991 submission reduces active duty manpower by over 91,000 from 1989 levels. We will make these reductions through reduced recruitment, voluntary early separations, and other actions short of involuntary reductions in force (RIF). To maintain high quality and morale, it is crucial we reduce strength gradually—without a RIF and with sufficient new enlistments to sustain the numbers of high quality people for skilled occupations. We cannot sustain long-term, volunteer manpower at high quality levels if we slash manpower precipitously.

Acquisition of quality weapons systems, in the face of declining resources, requires hard choices. We cannot take the seemingly easy path of canceling our next generation of high technology systems. The Soviets are clearly protecting their own such systems in their restructuring, and the increasingly sophisticated weapons in the arsenals of some potentially unfriendly non-Communist countries cannot be ignored in our planning. We looked at the capability and size of the military forces we will need in the long-term and sought to provide the highest priority to the development and procurement programs which support that outlook. We simply cannot afford the luxuries of buying current-generation systems that exceed the needs of our projected smaller force, or of continuing to develop systems whose eventual production will clearly not be affordable.

Our decisions in force structure reductions must demonstrate equal clarity of vision. As the size of our Armed Forces decreases, we must ensure that we identify and protect those forces which give us the flexibility to respond to a wide and increasingly unpredictable variety of threats. In the fiscal year 1991 budget, therefore, we reduce active heavy ground forces while continuing to provide remaining forces with the funds to maintain the high levels of readiness needed to execute short-notice actions such as recently in Panama, in the Philippines, and not too long ago, in the Persian Gulf.

We also need to maintain the alliance cohesion which has helped bring about the dramatic changes in the Warsaw Pact. We must time our force reductions and withdrawals so that the overseas portions follow negotiations rather than anticipating them. Accordingly, we are starting the long-term reductions in 1991 with U.S.-based divisions and aircraft units. Reductions in overseas units are expected to follow, and we are reducing our investments in overseas construction pending identification of these units.

The Secretary and I feel strongly about the continued modernization of our strategic nuclear forces. Soviet nuclear forces are the only palpable threat to the very existence of our Nation. While the Soviets appear to be reshaping their forces to conform to a future START agreement, they are continuing a robust modernization effort. We must maintain the credibility of our nuclear deterrent. A vital part of the fiscal year 1991 budget is the carefully-phased and START-compliant modernization of each leg of our nuclear TRIAD.

CONCLUSIONS

I have spoken in complete candor in this written statement—as I promised I would in my confirmation hearing. At the outset, I spoke of the similarities between our present world and the immediate aftermath of World War II. There is another similarity I want to mention, a very encouraging similarity.

The American people are very astute at assimilating the lessons of history. After World War I, they rejected the idea of collective security and lived to regret that rejection as they fought valiantly in World War II. Following that war, they accepted the reality that some form of collective security was absolutely essential to world order, peace, and their own prosperity. They also accepted the systemic strength of the Free world as the underlying principle of that collective security. In the North Atlantic Treaty Organization and the other alliances forged in those post-war years, Americans put strong steel into their new beliefs. I believe that lesson is still alive in most Americans. I believe they still want a strong Free world, a strong America and a credible defense, they simply want it at a reasonable cost. We can give them that reasonable cost—and we can avoid putting them at risk too. The way to accomplish that twofold task is an evolutionary approach to reshaping our Armed Forces.

Thank you for the opportunity to provide these words for the record.

Chairman NUNN. Thank you very much, General Powell. I will start off and I will ask the clerk to give each one of us——

Secretary CHENEY. Mr. Chairman.

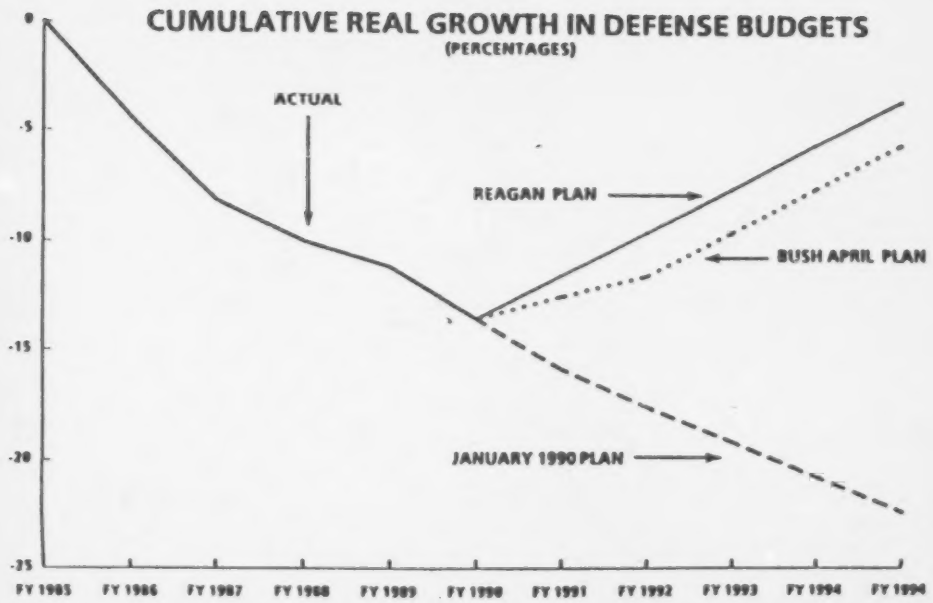
Chairman NUNN. Secretary Cheney.

Secretary CHENEY. Thank you, Mr. Chairman. I will be brief. I know that the time is short and the members want to get to questions, but I think it is important to provide an overview of the budget for fiscal year 1991.

NATIONAL DEFENSE TOPLINE
(Current $ Billions)

	1990	1991	1992	1993	1994	1995
BUDGET AUTHORITY						
DoD 051	**291.4**	**295.1**	**300.0**	**304.4**	**308.0**	**311.8**
DoE & Other	10.3	11.7	12.6	13.1	13.6	13.9
TOTAL 050	301.6	306.9	312.5	317.5	321.6	325.7
OUTLAYS						
DoD 051	**286.8**	**292.1**	**296.9**	**299.0**	**302.3**	**304.8**
DoE & Other	9.6	11.1	12.3	12.9	13.4	13.7
TOTAL 050	296.3	303.3	309.2	311.9	315.7	318.6

If I may, the first chart simply shows the projected 5-year path in terms of defense spending. The significant thing, I think, is that the overall level we project will go down by about 2 percent in real terms per year.

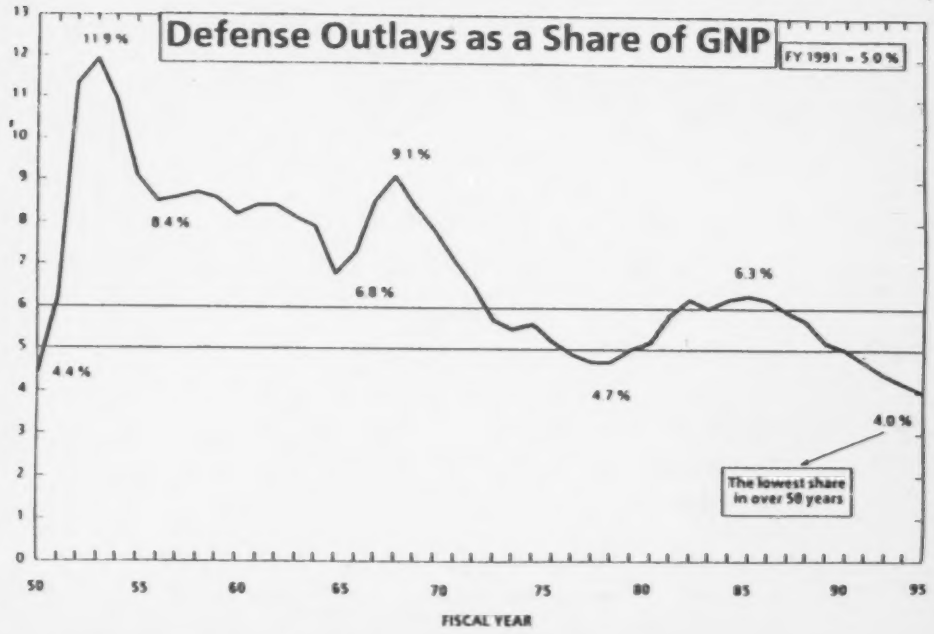


If you look at the second chart, I think this captures the essence of what we propose to do with our overall package. For several years now, the Department has come to Capitol Hill and asked for real increases in defense spending in the out years.

When I was here with our budget modification last spring, we projected that we would have a 1 percent increase in 1991 and 1992 and 2 percent in real terms in 1993 and 1994. That is the blue line you see to the right, below the Reagan plan.

The line to the left, the green line, shows what has actually happened over the years since 1985. We have had real reductions in defense spending. The Reagan plan was the one submitted a year ago at the end of the Reagan administration. The blue line is the one we submitted last spring with our revisions.

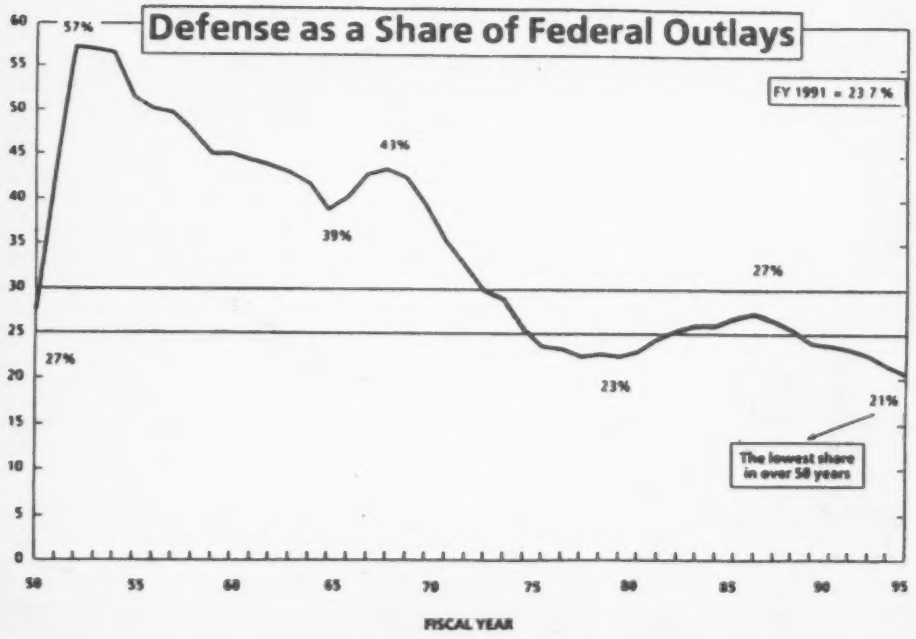
What I propose, and what the President has authorized us to submit, is the bottom line, the red line that shows January 1990. The difference, of course, is that instead of coming to the Hill this year with a proposal for real growth in the out years in defense spending, we are coming to the Congress with a proposal for real reductions in defense spending.



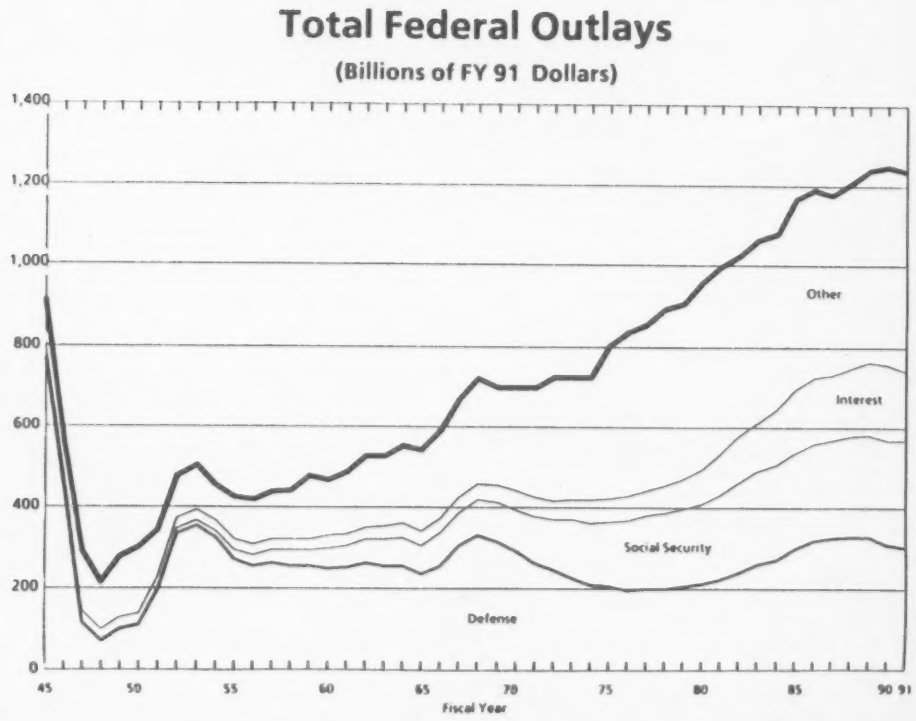
Another way to look at the overall budget, of course, is to look at it as a percentage of GNP. You will note on the chart there the blue band is the range between 5 and 6 percent. The peak in the Vietnam years, 9.1 percent of gross national product spent on defense, the peak during the Reagan buildup, 6.3 percent, if we follow the −2 percent path that we are talking about by 1995, 5 years from now, we will be spending 4 percent of gross national product on defense. That is the lowest level of GNP spent on defense since before World War II.

Chairman NUNN. Mr. Secretary, one question there. What number do you assume is the growth rate from 91 to 95 in order to establish GNP?

Secretary CHENEY. It is the basic growth rate that is in the President's budget in the economic forecast.



The fourth chart shows the same basic concept applied as a percentage of the Federal spending, the Federal budget in 1991. We are recommending 23.7 percent of the budget go for defense. But on this path, if we go down 2 percent a year, we will be below 21 percent of the budget being spent on defense in 1995, the lowest level of spending as a percentage of the Federal budget on defense since before World War II, pre-Pearl Harbor.



Another way to look at it is to just quickly get a fix on the blue area at the bottom of the chart—that is what we spend on defense. You can see the peak years back in Korea and during Vietnam in the late sixties.

The point here is that by the time we get to 1991 in the budget we just submitted, the defense will have shrunk significantly as a percentage of Federal spending to the extent that—if we have a deficit problem today, which I think most would admit—it continues to be a difficulty.

I think it is increasingly accurate to say that the deficit is not being driven by the defense budget to the extent that it was in prior years.

DEFENSE PRIORITIES

- **PERSONNEL/QUALITY OF LIFE**
- **READINESS**
- **STRATEGIC MODERNIZATION**
- **MARITIME SUPERIORITY**
- **EFFICIENT PRODUCTION RATES**
- **MAINTAIN TECHNOLOGY BASE**

Now, in terms of the package we have put together with respect to 1991, Mr. Chairman and members of the committee, we have had several considerations we have kept in mind, but I want to touch just on a few of them that I think are important.

The Chairman mentioned quality of the force. I think more than anything else as we go through this period of reduction and take the cuts that clearly we anticipate, that we need to be judged, not only the Department, but also those in Congress who are responsible for authorizing the forces we think we need, need to be judged in terms of whether or not we can make that transition, go through the period immediately ahead, and at the end of that time have forces of the quality that we have today.

The young men and women who are dedicated and devoted to their task who are professional and who are ready to do whatever the country requires to have done to safeguard our national security, we absolutely must retain the caliber of force we have today, and the key to that is attracting and retaining first class people to serve in the military.

The second item is readiness. Readiness travels under many different covers. Here it is intended more than anything else to refer to the extent to which our forces have the capacity to operate as we did in Panama, but it also refers to the extent to which we devote resources to training, to flying hours, to maintaining their ability to operate.

It oftentimes has enormous impact on morale. If we are going to train people to perform complicated and sophisticated military tasks, they ought to have the opportunity to practice their trade, and that is what readiness is all about.

Strategic modernization has been mentioned by the Chairman. It is vital. The President wants to continue it in light of the strategic environment. I would add that the Strategic Defense Initiative is a very important part of that priority.

Maritime superiority, I think is self-explanatory. We have tried hard as we contemplate the future to preserve the capacity force to control the oceans of the world. We think that is important.

On efficient production rates, as we did last year, we have tried with I think a fair degree of success to avoid simply stretching out programs, but rather to insist upon economic buys and to terminate programs rather than let them run at inefficient rates.

Finally, maintaining the technology base refers to the problem I mentioned earlier, that if we, in fact, are going through a period of time when we are going to shrink our budgets, that it is vital that we keep in mind the fact that we are still going to face increasingly sophisticated military threats around the world. And whether that is the Soviet robust strategic modernization program or the proliferation of sophisticated military technology in the Third World, maintaining our own technological capabilities is vital.

DEFENSE CUTS SINCE JANUARY 1989

- **The FY 1990-FY 1994 Plan was reduced by $64.2 billion in the April 1989 Budget Revision.**
- **The FY 1990-FY 1994 Plan was reduced by an additional $167.0 billion in January 1990.**
- **The Defense Management Report contains reductions of $ 39 billion.**
- **Reductions to the FY 1991 Program amount to $ 22.4 billion since the Budget Agreement in April, including:**
  - **Program Terminations,**
  - **Base Closures,**
  - **Force Structure Cuts,**
  - **Deferrals,**
  - **Civilian Hiring Freeze, and**
  - **Military Construction Freeze.**

To give a quick history, Mr. Chairman, since I became Secretary last spring, we have been through a fairly major process of reducing the defense budget. In the package that we submitted last spring that I think was approved in broad outlines by Congress, we cut almost $65 billion out of the 5-year defense program.

The package that we are submitting today for 1991 involves taking another $167 billion out of the defense program for a total of about $231 billion. That is roughly the difference between the Reagan line in January 1989 and the Bush line that is being submitted in January 1990.

The defense management report contains reductions of $39 billion. That is part of the $167 billion above it, and the reductions in 1991 amount to about $22 billion. Now, that is computed based upon taking the program that Congress approved for 1990 just last

year, running it into 1991—that is 28 divisions for the Army, the 561 ships for the Navy, the B–2 and all of the other programs that were authorized in the budget by the Congress for fiscal year 1990 and pricing them in 1991 comes to about $317 billion. We are submitting a request for budget authority of $295 billion, roughly a $22 billion reduction in 1991 numbers.

To get there, obviously, we have to do some difficult things, and we have terminated programs, we are recommending base closures, we are talking about force structure cuts. We have got a list of deferrals that are designed to save money. We have imposed a civilian hiring freeze. I have directed a 12 percent cut in the OSD staff. We have a military construction freeze on until such time as we can see that the services have, in fact, analyzed their Milcon activities to make sure it is consistent with our longer range plans.

PROGRAMS TERMINATED IN THE FY 1991 BUDGET

($ in Millions)

SYSTEM	FY 1991	FY 1991-1994
V-22 OSPREY	(-1,395) *	-6,468
F-14D Aircraft	(-469) *	-1,991
Army Helicopter Improvement Program (AHIP)	(-328) *	-1,400
PHOENIX Missile	(-333) *	-614
M-88A2 Improved Recovery Vehicle	(-90) *	-309
F-15E Aircraft	(+303) *	-3,317
Apache Helicopter	-682	-2,528
M-1 Tank	-1,086	-6,249
Maverick Missile	-367	-743
Air Force Airborne Self Protection Jammer	-264	-1,199
Combined Effects Munition	-142	-399
SEA LANCE ASW Standoff Weapon	-156	-975
Non-Line-of-Sight Missile	-131	-1,202
Advanced Short Range Air-to-Air Missile	-7	-46
Follow on to F-4G Wild Weasel	-12	-176
Air Base Survivability	-19	-130
Chaparral Missile	-26	-157
MK 19 Grenade Launcher	-20	-130
OV-1D Aircraft Mod Program	-37	-120
Autonomous Precision Guided Munition	-27	-114
TOTAL	**-2,976**	**-28,267**

I will not dwell on all of these. These are the programs that I have recommended for termination to the Congress with some success, not total success, but some success. The V–22 Osprey is at the top. It is back on the list again this year. I know that is controversial. We do not have any money in it in the 1991 budget. I am sure that is a subject we will debate over the course of the coming months.

The F–14D, of course, we are terminating in fiscal year 1990. There is no money for new production beyond fiscal year 1990. The AHIP, the Phoenix missile, the F–15 aircraft, et cetera, all of those are being terminated in 1991. Last production of the AHIP is in fiscal year 1990.

A couple of things that I would point out in particular. The Apache helicopter, of course, ends in 1991. We are proposing to shut down the M–1 tank production lines after the 1991 production buy. Plants will continue to run beyond that to accommodate funded delivery periods and foreign military sales.

The point is that we are, in fact, making very significant efforts to terminate programs and over the remainder of the FYDP, 1991 through 1994; we get about $28 billion through those terminations.

FORCE STRUCTURE CHANGES IN THE FY 1991 BUDGET
(Dollars in Millions)

	FY 1991	FY 1992-1994
Deactivate Two Army Divisions	-1,227	-4,940
Retire Two Battleships	-75	-534
Retire Two Nuclear Cruisers	+9	+99
Deactivate 8 SSNs	-232	-105
Marine Corps Artillery Batteries	-5	-44
Deactivate 14 B-52s	-71	-246
Minuteman II	-128	TBD
WC-130 Weather Reconnaissance	+5	-
TOTAL	**-1,724**	**-5,770**

In terms of force structure changes, one of the things we did as we have been through this process is to ask the services over the last few months—and I will talk about this later during the questions and answers—to begin thinking about our long-range prospects, what kind of force we want to shape as General Powell mentioned in the future.

And then we have tried to back up some of those preliminary decisions into the 1991 budget. Taking down force structure, I think, is absolutely essential if we want to preserve the quality of what is left.

The Army, I think, has come forward and I have approved a decision to deactivate two divisions, the 2d Armored and the 9th Infantry. We are taking two battleships down out of the four that are currently deployed. We are going to recommend retiring two nuclear cruisers, take eight SSNs out of the submarine force, et cetera.

POTENTIAL OUTYEAR ADJUSTMENTS

- **FY 1992-1994 approved topline requires reduction of $141 billion from April. (Overall 1990-1994 reduction is $167 Billion.)**
- **FY 1991 budget decisions (terminations, force structure adjustments, etc.) will reduce outyears by about $30 billion.**
- **Defense Management Report initiatives will save about $25 billion (1992-1994 share of $39 billion for 1992-1995).**
- **Early ratification of CFE & START, along with aggressive follow-on to CFE will allow reductions along the following lines:**
  - **3 Additional Army Divisions;**
  - **5 Air Force Tactical Air Wings;**
  - **Reexamination of TRIDENT and other ship construction;**
  - **Guard & Reserve manpower reductions; and**
  - **Military & Civilian strength reductions.**
- **Reviews are currently underway on B-2, C-17, ATA, ATF and SDI Programs.**

If we look long term at the 5-year program, Mr. Chairman and members of the committee, obviously the changes that are currently underway in the world lead us in the direction of beginning to think about significant modifications in our own force posture.

The biggest changes that I think warrant reconsideration of our force posture, clearly are those developing in Europe. What we have done so far is to begin thinking about notional concepts we are not recommending to the committee today. They will be addressed aggressively in the months ahead as we prepare the next long-range plan for the Department, the fiscal years 1992–1997 POM which is now in preparation. But to give examples, the concepts include taking a total of five divisions out of the Army, three additional over and above the two that we are taking out in 1991; taking down approximately five tactical wings out of the Air Force; other force structure, manpower reductions; et cetera.

As noted there at the bottom, we have got a major effort underway now within the Department to review our big aircraft programs, specifically the B–2, the C–17, the ATA, and the ATF, and we have an ongoing review underway with respect to the Strategic Defense Initiative.

Chairman NUNN. Mr. Secretary, could I ask one question on that chart just for clarification?

With the possibility of the early ratification of CFE and START, your chart shows the potential of eliminating three Army divisions, five Air Force tactical wings and so forth. My question is: Does this chart reflect the latest change in the American arms control proposal as announced by President Bush last night or is this the old number of 275?

Secretary CHENEY. This is the chart, Mr. Chairman, that I used in the press briefing. We did not want to do two charts since we are trying to save money.

We did a press briefing on Monday which was before the President's announcement. So, the thing that is really different there, it talks about early ratification of CFE along with aggressive follow-on to CFE.

I would argue that the aggressive follow-on embodied in the President's proposal last night—that is, going to the lower levels than the 275,000 originally anticipated—is the basis for our program. We are taking down five divisions out of the Army based upon the notion that we would get reductions in Europe of the magnitude that the President has now proposed. That is to say, I would not come back now based upon his recommendation from last night and say okay, we can take seven divisions out of the Army.

Chairman NUNN. Thank you.

Secretary CHENEY. Mr. Chairman, there are a number of other things we could touch on. Let me simply close our opening remarks by reemphasizing what the Chairman said.

We have been through periods in the last 50 years when we have had three build-downs, World War II, Korea, and Vietnam. This is the fourth. This set of circumstances I would argue is radically different from those earlier periods.

You mentioned in your opening remarks that we have been through this period before, but we do, in fact, have an all-volunteer force today. It is a very professional force. It is made up of dedicated men and women who want to be there, and we have to treat them with the dignity and respect they deserve if we are going to be able to keep them in the force and to attract others to serve as needed. It is absolutely essential that we be able to assure the young soldiers and sailors, airmen and marines that they will, in fact, be part of a quality operation 4 or 5 years from now when we complete this process.

To do that we have to cut in an intelligent fashion. We cannot cut on an ad hoc basis. We have to build down the force, and I say build down deliberately because I think it does have to be a very careful, very deliberate scaling back of our efforts, and we do have to close down procurement lines, we do have to cut force structure, we do have to close bases. We have to do all of those things that oftentimes are very difficult, but it is absolutely essential for us to, in fact, make those tough choices if we are going to have a quality force at the end of the next 5 years that we think is required, and, if we are able to provide the kind of support and sustenance to those young men and women we ask to go in harm's way for us. Thank you, Mr. Chairman.

Chairman NUNN. Thank you very much, Mr. Secretary. I will ask the clerk to keep a 6-minute clock on Senator Warner and since we have already made our opening statements and 8 minutes on the other members of the committee.

Mr. Secretary, thank you for your statement. General Powell, thank you.

Mr. Secretary, you indicated you are developing a fiscal year 1992-1997 program that takes further account of the changes in Eastern Europe and the Soviet Union.

Do you have a time frame in which we could expect that 5-year framework to be presented so we could look at it and have an examination?

Secretary CHENEY. Well, Mr. Chairman, the process that we have gone through to get to the point we are at now, I think, should be of interest to the committee.

Ordinarily, of course, we would be here presenting minor modifications to the second year of the 2-year plan we submitted last year.

Last year we submitted the 1990-1991 plan. Last fall when we signed the conference agreement we set, for example, the procurement level for the B–2 for 1991 at five aircraft. We did that just a few months ago. But, last fall when it became clear that we had fundamental changes underway in Europe, and also that we could not anticipate, and should not anticipate, planning on real growth in the defense budget in future years, I called together the service Secretaries and the service Chiefs, and we decided to proceed on the basis of a much more realistic estimate in terms of what our outyear resources are likely to be taking into account considering the changes that we see underway in the world.

As a result of that effort, we have tried to accelerate the process that ordinarily would not occur until the 1992-1997 POM. We are right now in the middle of preparing that longer range package that runs from 1992 to 1997, and that program objective memorandum will be presented to me by the services in April, and then we will go through the normal iterations.

What we would ordinarily do is submit to the Congress next year a brand new 6-year plan. It is 6 years now since we have gone to the 2-year cycle.

We are going to continue to work to make the changes and modifications in the long program. We have set a top line in terms of funding, but we have still got a lot of work to do to finalize decisions in terms of what we think ought to be there.

I would argue, I guess, that with respect to submissions to the Congress we will do our best to provide you the information as we go through these weeks ahead.

For example, I would hope we could come back to the committee prior to the time you get to mark-up with the results of the studies that we now have underway on major aircraft programs.

I think that is important for your consideration and your deliberation.

It is conceivable that if we get a CFE agreement signed in 1990, we might want to take that into account before the Congress finally finishes with the 1991 package next fall.

So, we are in the midst of a very dynamic environment. We can crunch out a lot of numbers and send them to you based on the 1991 plan that we submitted last year but, again, I think that would be totally unrealistic because it does, in fact, show real growth in the outyears, and we have decided we do not expect real growth in the outyears. We want to be much more realistic.

Chairman NUNN. We will very much need to stay in touch with you as you develop this. And even if the final plan with all the printing and so forth is not available, we need to get as much information as we go along in our process. Because as I view it, the only way we can make rational decisions now is to have a vision of where you are going over 5 years. And I am sure you are trying to do that internally also.

Looking at the arithmetic of the budget, you indicated that you have had to cut $167 billion out of last year's 5-year defense plan. Is that correct?

Secretary CHENEY. To get down to the minus 2 percent level that we have on the chart and that we have put in the President's budget in terms of the top-line submission that came up this week, we need to take a $167 billion additional out of the 5-year defense plan over and beyond what we have already taken out in the last year.

Chairman NUNN. Check my arithmetic on this, Mr. Secretary. You have got $22 billion in program reductions in the fiscal year 1991, and that has a $30 billion out-year savings effect. And then you have got $25 billion in anticipated savings from the defense management review. So, you have got, as I figure it, 22 plus 30 plus 25 that you have identified in one way or the other.

That leaves about $85 billion or $90 billion in cuts of the amount to get down to your 2 percent minus growth that you have not yet identified. Is that correct?

Secretary CHENEY. That is approximately correct. The $25 billion in defense management is that portion of the DMR that would fall in the current FYDP that is, through 1994. Out over the next 5 years, you get a total of $39 billion. But your arithmetic is approximately correct, Mr. Chairman.

We have been through a very elaborate review process within the Department through the DPRB chaired by the Deputy Secretary. We have had extensive reviews on everything from strategic systems, force projection, heavy armor. And we are looking at all facets and aspects of the budget, but it is going to be a continuous process. And we will—as we make these decisions—be happy to convey them to the Congress.

Most of them will not affect your 1991 activities. That is to say, to the extent we were able to feed these longer-term considerations into 1991 that is already reflected in the documents we have submitted to you. But to get down to the ceiling that we have been given, to the minus 2 percent over the course of the next 5 years, yes, we do indeed have additional cuts to take.

Chairman NUNN. Let me ask one other question on my first round, Mr. Secretary. Last week President Bush said that he would propose, and quoting him exactly, "a defense budget that begins a transition to a restructured military, a new strategy that is more flexible, more geared to continuances outside Europe, while continuing to meet our inescapable responsibility to NATO and maintaining the global balance."

Your press release this week stated that changes in the Nation's defense strategy are not in order, and that this is "the worst possible time to contemplate changes in defense strategy."

I have heard you and General Powell both refer to your elements of strategy, and to me that is a very broad definition of strategy. I do not think anybody disagrees with deterrence, alliances, forward deployments, maritime strengths, superiority or flexible contingencies. Those are very broad terms; I think we could all stipulate that.

But my question is, are you and President Bush talking about the same thing when he says he is submitting a new strategy, and you are saying this is the worst possible time to contemplate a new strategy?

Secretary CHENEY. If the President says we need a new strategy, obviously, we need a new strategy. [Laughter.]

I think we have to be careful here, Mr. Chairman, about semantics. I think there is no difference between myself, or General Powell, and the President. We have had fairly extensive discussions with him on this subject. And I think what we are talking about, at least in terms of my presentation, is that a reminder to everybody that the strategy that we pursued for 40 years has been enormously successful and that modifications or changes in it are warranted, given what is under way in Europe. But that radical departures from the past are not called for.

I think that goes without saying. I think the kinds of things that I would contemplate altering in the current environment are force deployments. The number of divisions that we have deployed, our procurement rates with respect to the number of systems we need for that to address questions about what kind of lift capability we need in order to be mobile and reinforce Europe and, given longer warning times, how we deal with the possibility that we may have fewer faces overseas than we currently have, and how that all feeds into questions like, for example, what we do with the C–17.

Chairman NUNN. You see, I call those decisions at that level part of our strategy. When you reduce your forces in Europe by as much as we are talking about, when the forward battle area is yet to be identified because of the tremendous changes in Eastern Europe, and when study after study have indicated that you get down to a lower level of forces and you have to readjust your forward defense thinking, then it seems to me that an elementary examination of strategy is in order. But perhaps we will all need to decide what our definition of strategy is as we go along. Without any doubt, fundamental changes and fundamental rethinking is going to have to occur. Senator Warner.

Senator WARNER. Thank you, Mr. Chairman.

Gentlemen, I wish to compliment you on your opening remarks, and I also compliment the chairman on setting the tenor for this hearing. I pride myself in my membership on this committee, and I think we are going to approach the work of our committee in a very bipartisan manner avoiding a lot of flare-ups that we have seen in some of the opening rounds of other committees that have taken a look at the President's budget.

I would like to address the document, which has just been handed to me. It reflects the White House Office of the Press Secretary's analysis of the troop cut last night. I would like to hear from both of you your concurrence on these facts. Since, neither of you have seen this, I will read it to you.

"The President has concluded that this proposal reflects the minimum," I underline, "minimum level of U.S. forces needed in Europe to protect American interest and to sustain NATO's strategy of forward defense and flexible response."

Let us dwell on two phrases in there. One, the "minimum level," and the second, "flexible response." Mr. Secretary, I would presume and hope the doctrine of flexible response is still a viable one. And that, of course, brings to question whether or not we should consider the request of a follow-on to Lance II.

And also the question it is the minimum level, certainly for the foreseeable future; and possibly a CFE II round of negotiations would address other aspects of conventional reductions as opposed to troop levels.

Secretary CHENEY. Senator Warner, the number that was set, that is, the 195,000 in Central Europe, 225,000 Europe-wide, in the President's proposal last night, was developed basically within the Department and by the Joint Staff. And I will let General Powell comment on it in a minute, working as well with General Galvin, our Supreme Allied Commander in Europe.

It was selected in part because it preserves a corps: two divisions, the corps headquarters and the supporting elements. That is, it is a viable, useful, military force.

With respect to the doctrine of flexible response, I would agree——

Senator WARNER. Excuse me, Mr. Secretary, you agree that that is the minimum credible force that we should maintain in the European theater for the foreseeable future?

Secretary CHENEY. I think it is, Senator.

Senator WARNER. And that if should there be calls from some for further reductions, I would hope that the President and yourself and the Chairman and others would, as we say in Virginia, stand like a stone wall. Is that correct?

Secretary CHENEY. Senator, that is correct. I think it is important for us, if you will, to some extent to put a floor under our presence in Western Europe. One of the things, of course that I think is vital, given the instabilities that have developed in Eastern Europe as the change occurs—is that NATO continue to be an effective force. The United States has to be a key part of NATO. And I think we are for the foreseeable future, as you say, going to want a significant ground presence in Europe, but lower levels than presently. But I think the number that we have before us now is about right.

Senator WARNER. Now, as to the doctrine of flexible response which has been a very key part of our strategy and that of NATO for many years.

Secretary CHENEY. The doctrine has been very important; it continues to be very important. It is the notion, of course, that the conventional defense of Western Europe is linked ultimately in part by our deployment of theater nuclear forces and ultimately tied to the defense of the United States and our own strategic forces. That has been a successful strategy, and I do not see any need to change it.

With respect to the Follow-on-to Lance question, we currently have an administration posture that is tied to our alliance position.

And the alliance position was embodied in the comprehensive concept agreed to by the heads of government of the NATO countries last May in Brussels. It states specifically that there is a requirement for continued presence of robust and capable nuclear forces across this broad spectrum of capabilities.

We have the obligation to continue with R&D on this system, on the Follow-on-to Lance. Eventually, after a CFE agreement is concluded and we have begun to implement it, there is an agreement within the alliance to then begin to negotiate on the question of short-range nuclear forces in Europe. That negotiation, I fully expect, will take place. If there is to be any change in the follow-on program, I think it ought to be determined on an alliance-wide basis, not unilaterally by the United States.

Senator WARNER. That, of course, applies to the concept of the Third Zero Option.

Secretary CHENEY. The Third Zero Option is in TASM, as well as the other tactical system we are talking about.

Senator WARNER. General Powell, the document reads, "Forces withdrawn will be demobilized." I would presume that you would bring these forces back and determine how you would restructure your forces here rather than demobilizing the actual individual soldiers. But instead, there would be a general mix of actions with respect to what is brought back and how that is coordinated with force reductions in CONUS.

General POWELL. There would be a mix of actions with respect to the troop numbers.

Senator WARNER. Do you have any comments on the 195,000, being that force level which you, as our chief military advisor, considers minimal?

General POWELL. The number came from the President and the Secretary's military advisers. It was a number that we worked out within the Joint Chiefs of Staff after consultation with the Supreme Allied Commander in Europe, SACEUR, General Galvin. It was a number he felt was the minimum number of soldiers required to execute the existing alliance strategy, which is a strategy of flexible response and forward defense.

As the Secretary has pointed out, that will allow us to keep a corps there with all the infrastructure required to reinforce that corps, should we have to execute the alliance strategy.

Senator WARNER. Given that other nations have fiscal problems, what do you anticipate will be the reaction within NATO in terms of their troop levels to the NATO alliance?

General POWELL. I think all allies are having, as you just said, Senator, fiscal problems. But I hope they will understand that with this proposal the President has set a floor which says: "This is where we stand." I do not usually quote a Virginia bromide such as that one—but like a "stone wall," it is a good term, and that is our bottom line. I hope they will try to keep a bottom line under their own force structures as well.

Senator WARNER. Mr. Secretary, we heard reports that the President sent over certain emissaries to advise our allies of this action. Can you describe their reaction, the allies', and particularly the allegations that Mrs. Thatcher was in strong disagreement?

Secretary CHENEY. Senator, the process we went through involved the President calling some of our key allies on the telephone, sending Mr. Eagleburger from the State Department, Bob Gates from the NSC, accompanied by, I believe, General Butler from the Joint Staff. And they visited as well those heads of government in Europe.

We had communications through our embassies, written communications with the other governments involved. So, the consultation was fairly extensive over the past weekend to let them know what he wanted to do.

The reaction, I think it would be fair to say, was generally very positive. I think they felt it was an important and useful way for us to retain the initiative in the arms control efforts, to give new impetus, if you will, to the efforts to negotiate a CFE agreement. And they welcomed the prospect of further reductions in Soviet forces in Eastern Europe.

I would not want to characterize the reaction of any one particular foreign leader. I had the honor this week to host my colleague Tom King, the British Defense Minister. He has been in town this week. We discussed the subject extensively, and it certainly was not my impression that there was any fundamental disagreement between our governments on this point.

Senator WARNER. Last question, Mr. Secretary. The phrase "peace dividend." I think we have a responsibility to address that issue. How do you in a responsible way advise the American public with respect to the use of this term, peace dividend? And particularly in the wake of this dramatic announcement by the President last night?

Secretary CHENEY. Well, Senator, I think it is clear from the thinking that we have done in the Department, and the kinds of presentations we have made here this morning, that we can in fact contemplate some savings in terms of lower levels of defensive spending than would have been the case, based on historical precedence.

Those reductions in 1991 take the form of enabling the President to submit a budget that meets the Gramm-Rudman targets without a tax increase. I think that is a significant benefit. Longer term, we clearly are talking about taking a significant amount of money out of the total defense budget.

I guess, the argument I find most attractive is the notion that the dividend from what we have spent over the years is in fact peace itself. That we have secured our liberty and that of our allies by the investments we have made, this committee has made in our national security. And I think that needs to be emphasized more than anything else.

I think the notion that there is going to be some giant windfall here in my judgment is inappropriate. I am not focused so much though on what Congress is going to do with what we do not spend. My emphasis is upon those dollars that Congress allocates to us for our purposes within the Department. My own personal view would be that if there are savings here, that they ought to be applied to deficit reduction. But that is a decision, obviously, that ultimately the President and the Congress will make, and I am not likely to be a part of that debate.

Chairman NUNN. Senator Exon.

Senator EXON. Mr. Chairman, thank you very much.

Mr. Secretary and General, thank you for being here this morning. I have listened very carefully to your remarks, and I congratulate you on them. They are forthcoming, they are direct, and I think with these kinds of presentations we are going to go a long way with establishing a perception of credibility on the cuts that are going to be made.

I am going to be asking you several questions with regard to what we will be wrestling with in the Strategic Subcommittee on some of these matters and some in the conventional area because one of the great difficulties that we are going to have is to make further cuts, if necessary, and, at the same time, not do irreparable harm to some part of our overall national security.

I particularly salute you for coming up front with this fact, and I hope Americans can understand this. Despite the fact we have many politicians of both parties talking on the television today about cutting defense, they raise the devil when you cut a base, but they ask what are you going to do about the B–2.

You have come up today and stated, as other witnesses have before this threat assessment series of hearings—and I want to emphasize it—that there is one place where the Soviet Union is not pulling back and not cutting and that is in their strategic deterrent, is that correct?

Secretary CHENEY. That is correct, Senator.

Senator EXON. And so I hope we can keep that in perspective. I am preaching to the choir here. I hope other people will listen very carefully to that.

Let me get into some of the specifics.

I like your proposal. I said 90 days ago that I felt that we should work toward a real cut of between 3 and 5 percent over the next 5 years. You are at 2 percent.

I suggest to you that this type of cut is a distinct possibility when this budget is finally completed and after you have time to make more inputs, as you will during the year.

I will ask you up-front, do you really believe, given the crunch of the budget and given the debate that we had last year on the Strategic Defense Initiative, that we are going to come out of the Armed Services Committee and certainly on the floor of the U.S. Senate with nearly a billion dollar increase in SDI? I mean, is that realistic?

Secretary CHENEY. Well, Senator, I hope so. Obviously all I can do is recommend to the President and the President recommend to the Congress what we think makes sense.

The President has made it clear this is a priority in his mind. He mentioned it last night in his State of the Union Address.

What we have tried to do is to present to the Congress a program taking into account that we were cut last year by close to a billion dollars below what we had originally requested.

We, in terms of developing something as complicated as the Strategic Defense Initiative, need some kind of certainty in terms of planning, some idea of what our funding requirements are going to be, and whether they are going to be met. And every time we take a big hit or ratchet the program down, we have to go back and redo

the whole program. And so it is very unsettling, if you will, in terms of trying to manage it intelligently.

But if we want to develop our research and development on SDI to the point that we can make a decision about possible deployment within the next few years, then we do, in fact, need to wrap up the program.

What happens when we reduce it significantly below the request that we made last year or that we have made against this year? The net result is to postpone the prospects of a deployment decision into the indefinite future, and we end up with strictly an R&D program and no prospect of being able to actually deploy defense.

Senator EXON. Well, I do not believe that the Congress is going to allow you, given certain situations, extensive deployment of that system now anyway. That is way down the road, and I will not ask you to comment further on it now, Mr. Secretary, but we will be asking you and be prepared and try to get some figures for us or have your people do it on what will happen and what will be cut back on the SDI program if we cut a billion dollars off of it, and I am sure that something like that is coming.

Now, let us go to the B–2. Other than SDI, the B–2, is the one program that everybody grabs the headlines on and takes a shot.

If we are going to have a perception of credibility—and I say this as a strong supporter of our nuclear deterrent—we are going to have to significantly reduce, as I have had expected from the beginning and suspect even more so now, the numbers of the 132 that the Air Force proposed to buy. Where are we on that now? Is there a study going on inside the Pentagon right now on that proposition and, if so, how soon do you think you will be coming forth with a recommendation in that area?

Secretary CHENEY. Senator, I have spent as much time, I suppose, on the B–2 over the last year as any other item. Because it is a big ticket item, it is a very important system. It is designed with a view toward our posture in a post-START environment. It is important in terms of the Reykjavik counting rule, for example, that has been agreed to on a tentative basis in the START negotiations. It is an important capability, and I worked with the members of this committee last year, and we concluded in the conference agreement that was finally worked out between the President and the Congress that we would buy two B–2s in fiscal year 1990 and five in 1991.

I have not changed that posture at all. The 1991 budget assumes that we will, in fact, begin procurement on those five authorized for 1991.

What has happened, though, obviously is that partly as a result of the debate last year, partly as a result of the suggestions and recommendations of the Congress itself, we have gone back to the drawing boards to look at the B–2 once again.

It is being reviewed in conjunction with our three other major aircraft systems that are in various stages of development, the C–17, the ATA and the ATF. I have asked them to go back and look at the funding profile to see if there are additional ways to squeeze the cost down, to look at the projected total buy of aircraft. All of those kinds of issues are under review right now, and the problem becomes more significant once you contemplate the prospects of re-

duced defense spending in the outyears. Then we are increasingly in a position—and we have talked about the bow wave in the past—where we are trying to fit a lot of programs into shrinking dollars, and we have made it clear we would rather not do that. We will be back to the committee, I think, well before mark-up, with the results of the study that is currently underway.

They have to report to me within the next couple of months, and as soon as we have something to come forward with, we will be prepared to sit down and talk with the members of the committee about whether or not there ought to be some modification in the current program.

Senator EXON. Is it likely, Mr. Secretary, that there will be some significant modification in the total buy on the B–2 program?

Secretary CHENEY. That is certainly a possibility but, again, I do not want to prejudge the outcome of the study. People have talked about instead of 132 B–2s, what about 75 or 90 or 100, and we will, in fact, look at those various and sundry options before we come back before the committee.

Senator EXON. Thank you, Mr. Secretary.

I also understand that there is a billion dollar-plus, near $2 billion, for special hangars for the B–2. If you could comment on that now, fine. If you would like to report back for the record, I would hope you would.

Secretary CHENEY. Well, I will be happy to submit something for the record from a technical standpoint, but it is my understanding that we do indeed need special hangars for the B–2 given the way it is built and the technology that is involved.

If you set it out on the runway in the hot sun, like you might with a B–52, over a long period of time internal components might possibly be impacted from heat cycling, and to protect its special features, you do, in fact, need special storage.

[The information follows:]

SPECIAL HANGARS FOR THE B–2

Recent newspaper articles have stated the cost of the B–2 hangars will be $1.6 billion. The $1.6 billion is the total for all SAC and depot B–2 Milcon.

The cost of each hangar in fiscal year 1990 dollars is $4.7 million. A total of 96 docks are planned. The major cost is for the building structure which is a long span, high bay design with doors necessary to enclose the aircraft. The building includes only the minimum essential items such as a fire suppression system, heating system (air-conditioning was never included), lighting, and security sensors. A fueling hydrant/CASS system is also located in the hangar; however, these would be provided even if the aircraft was parked on an open ramp.

The purpose of the B–2 hangars is to reduce the operations and support cost, provide higher aircraft availability, reduce generation time, increase physical security, and eliminate weather impacts. The aircraft and its electrical equipment are designed to function in temperatures from sub-zero to well above 100 degrees. However, it is a fact that sheltering the electrical equipment from unnecessary exposure to direct heating will extend the service life of the equipment. Hangaring will prevent excessive heat buildup in the cockpit through exposure to the sun. Hangaring will also eliminate the need for ice and snow removal thereby reducing the potential for surface damage from traditional deicing techniques which might adversely impact RCS. Hangaring will reduce operations and support costs by increasing the service life of the painted surfaces, reducing the overall manpower requirements, simplifying maintenance procedures, and shortening the time required to perform maintenance on the aircraft. Furthermore, hangaring will provide enhanced security for the aircraft and safety for operations and maintenance personnel.

Because of the benefits previously mentioned and the need to safeguard this very capable asset and protect the Nations investment, the building of hangars, each which cost less than 1 percent of the program acquisition unit cost per aircraft, makes good economic sense.

Senator EXON. Well, Mr. Secretary, that is going to be a tough dog to sell at this pond, and I would suggest that you come up with a pretty good explanation of that.

One last question with regard to the carriers. Since we are making all these reductions which most of us think are necessary, why have we not made at least some reductions in at least one of our 14 carrier task forces?

Secretary CHENEY. Senator, last year I made the decision in connection with the 1990 budget that we would take down one aircraft carrier. Instead of having 15, we are now down to 14.

In the budget that is being submitted for 1991, we anticipate the withdrawal from the force of the *Midway* in 1991. Of course, it will be replaced by the new carrier coming on line then.

I have wrestled with the question of how many carriers we want to keep in the force. I must admit to a certain bias, I suppose, in favor of aircraft carriers for a couple of reasons. One, because I think they are a very important peacetime asset.

My experience has been, both during the Bush administration, and previously that whenever there is a crisis, the first thing that happens is the President wants to know where the aircraft carriers are.

Second, the carriers are an asset that takes a long time to build. I had the experience last fall and the privilege of commissioning the new *Lincoln.* From the time Congress decided to build the *Lincoln* it was, I think, better than a year until we laid the keel. From keel laying until commissioning was 5 additional years.

It would be another year after that before the *Lincoln* will be fully up and be a deployable asset with an active air wing and so forth, and so I am reluctant to take down something that significant immediately until we have had a chance to really take a look at our longer term commitments.

We will review those issues in conjunction with the 1992–1997 POM process that is underway. We already are taking down one carrier, the *Midway,* in 1991, although we are going to stay at 14 because there is a new one coming in. Whether or not we would recommend changing the structure of the force, I am inclined to leave until the 1992–1997 POM is finished next year.

Senator EXON. Thank you, gentlemen. Thank you, Mr. Chairman.

Chairman NUNN. Thank you.

With great pleasure I introduce Senator Cohen, who was not recognized in accordance with all of the committee rules yesterday and who brought it to the chairman's attention.

Senator COHEN. Thank you, Mr. Chairman.

Let me first say to Secretary Cheney and General Powell, I want to commend you for the job that was done by our military forces in Operation Just Cause. I think that from every report that I have read and people I have talked to, all of our people performed courageously and competently with great skill, and I think that you two gentlemen deserve a lot of credit.

I also would like to ask whether or not you felt that General Lindsay's command made an important contribution to the operation? General Powell.

General Powell: It certainly did.

Senator COHEN. And the fact that you had increased powers as Chairman of the Joint Chiefs perhaps contributed to the excellence of that operation?

General POWELL. The system worked very well, Senator Cohen.

Senator COHEN. In fact, we had General Thurman, who also played a major role.

General POWELL. Yes, indeed.

Senator COHEN. So, I would conclude that you would agree that sometimes what is labeled congressional interference or meddling sometimes has a redemptive feature to it. [Laughter.]

General POWELL. Well, I am not at all sure that it would not have worked as well otherwise. But I must say, Senator Cohen, the authorities given to me were adequate, the system worked extremely well, and we all should be proud, the administration and Congress.

Secretary CHENEY. Senator, if I might comment, I perhaps have a slightly different perspective as someone who has often castigated the Congress in the past for undue meddling in the business of the executive branch. Even though I was a Congressman for 10 years, I have the perspective of a civilian who sat on top of the Department as it worked. I must say I come away from my experience in the last few months—especially with General Powell, since he came on board the 1st of October—and through the Just Cause Operation, an absolute believer in Goldwater-Nichols, the act that changed the structure of the management of the Department.

Speaking as the civilian who has to sort of deal down with the military in that kind of an operation, being able to go to the Chairman and have the Chairman with the strength, institutionally, to be able to speak as the key military advisor for the President and for myself, having a clear-cut chain of command, communicating through the Chairman, out to the CINCs, was enormously valuable. I think one of the reasons the operation was so successful was, in part, because of the procedures and practices that are now in place as a result of the act. So, I take my hat off to the committee who sponsored the Goldwater-Nichols Act.

Senator COHEN. From now on we will refer to it as congressional macro management. And I do appreciate your statements about support for greater efforts in special operations capabilities and low intensity conflict. That is also something that was initiated on the Hill, and I think it will prove even more valuable in the years to come.

Secretary Cheney, you indicated that you expect the Soviet Union to be virtually out of Eastern Europe within the next 5 years or at least that that is a real possibility. Does that mean that the United States will also be out of Europe in the next 5 years?

Secretary CHENEY. No. It would not, in my mind, Senator. I would not want to be tagged with the hard and fast prediction that they will be out.

What I said, and I think it is not unreasonable, is that we can, as we speculate about the future, as we think about scenarios, expect

they might be gone, especially given the demands of all of their allies for their departure.

I would argue that probably the ideal outcome is one in which the Soviets are gone from Eastern Europe, NATO continues, the U.S. continues to have a presence in NATO, but at reduced levels, the kinds of levels we are talking about with the President's proposal.

I think it is very important for us not to equate the Soviet presence in Eastern Europe with the U.S. presence in Western Europe. The United States is in Western Europe because we are part of an alliance of free and sovereign states. We are there because our allies want us to be there.

The Soviets are in Eastern Europe because they are an occupying power and have been since the end of World War II, and I think we need to break conceptually that linkage that many people have in their minds that somehow Soviet presence in Eastern Europe can be equated with our presence in Western Europe.

Senator COHEN. So, it is your assessment, then, that Mr. Gorbachev and/or his successor, if there should be one, would be willing or have to accept a military presence on the part of the United States within the NATO context, even though there are no Soviet forces in Eastern Europe?

Secretary CHENEY. I do not know that they would like to do that.

I think one of their big problems is going to be that it is pretty clear their Eastern European neighbors are not eager to have them stick around.

Senator COHEN. General Powell, Admiral Crowe recently suggested elimination or reduction of the long-range nuclear-tipped sea-launched cruise missile would be in the United States' interest as well as that of the Soviet Union. Would you agree with that statement?

General POWELL. I would not at this time, Senator. I think it is a capability in which we have quite a technological lead. I think we should continue to keep that capability.

Senator COHEN. Do you think that should be part of our negotiations with the Soviets?

General POWELL. Not at this time, Senator.

Senator COHEN. Secretary Cheney, Jim Schlesinger, former Secretary of Defense, testified earlier before the committee. He indicated that one of the fears that he has is that, as we draw down our forces in Europe and the Soviets withdraw from Eastern Europe, this might in fact result in the Soviets having a preponderance of influence over or certainly military leverage within the Persian Gulf region, putting us at a great disadvantage. Given the strategic need for Persian Gulf oil, it puts us at something of a less than desirable position.

Number one, do you agree with that, and if you do, does it mean that we need to increase our maritime presence in that part of the world?

Secretary CHENEY. Senator, I have heard the theory. I did not see Secretary Schlesinger's comments in detail, but I heard the theory expressed that if the Soviets withdraw from Eastern Europe and take all those forces back east of the Urals, what you have done is

put them directly north of the Persian Gulf, and that strategically would not necessarily be a positive development.

I think we have to be concerned about that. I think you can speculate on the possibility that some future Soviet leader might be less oriented toward improving the relations with the West than President Gorbachev has been, and might be tempted to use military force to solve an economic problem, perhaps, in the Soviet Union, and seek, for example, access to the enormous wealth of the Middle East.

I think that is a very far-out projection at present. If you just look at the enormous difficulties the Soviets are having maintaining order in Azerbaijan, just north of Iran, it is clear they would have major, major problems, and we would have a significant amount of warning time before they would be in a position to make an aggressive move down through Iran toward the Persian Gulf.

Having said that I would argue that the gulf, the Arabian Peninsula, is one of the absolutely crucial areas of the world from the standpoint of U.S. and allied interests. We ought to be prepared, and are, I think, to a large extent, to deal with contingencies in that part of the world, including the possibility that some day we might have to deploy large U.S. forces there to deal with that kind of eventuality.

The Chairman might want to speak to it. He spent a lot of time developing the issue this year.

General POWELL. I agree.

Senator COHEN. Richard Perle, who certainly cannot be identified as a unilateralist, suggested earlier before the committee that Soviet spending on strategic systems as they continue to modernize really will prove ultimately counterproductive, or at least self-defeating. That as you take away the threat to Western Europe, the fact that they continue to modernize at extraordinary levels will not serve them well.

They will not be able to launch a preemptive strike, or indeed contemplate winning a nuclear war, and therefore they are simply wasting even more of their assets, which they can little afford to do, on systems that will give them no strategic advantage. Do you agree with that?

Secretary CHENEY. I think you probably could make the argument, Senator that they have been wasting assets for 40 years. It has not kept them from doing it, though. I think they do it in part because they see that as the only claim they have to the status of superpower.

They have maintained a huge army, upwards of 200 divisions for the last several years, a World War II style army, if you will that was only good for one thing—invading Western Europe—and they never used it for that purpose.

They are paying a price, now, for the extent to which they overinvested in the military, because they have a smaller economy than we thought and their current problems stem in part from that.

But again, from our perspective, we have to retain the capacity to deal with the fact that however irrational their decision might have been, they have invested in enormous military power.

Senator COHEN. I hope I am not misquoting Richard Perle, but I think his point was that if in fact they are wasting assets they need, it does not mean that we necessarily have to follow suit and engage in a mirror-imaging policy. And I think that former Assistant Secretary Perle was accurate in suggesting there are some cuts that we could make in some of our strategic systems without jeopardizing the national security, but that is a debate we can continue.

Secretary CHENEY. It is an interesting debate. I would argue that when we get down to 4 percent of our gross national product going for the total military, and a relatively small percentage of that going for strategic systems, we are well within the bounds of what, historically, we have been able to afford as a nation and that there is no comparison to the damage we have done to our economy, which I do not think we have, and the damage they have done to their economy by spending 25 or 30 percent of their GNP on defense.

Chairman NUNN. Thank you, Senator Cohen.

[Whereupon the hearing recessed and the committee proceeded to conduct committee business.]

[Whereupon the hearing resumed.]

Chairman NUNN. The Chair recognizes Senator Kennedy.

Senator KENNEDY. Thank you, Mr. Chairman.

Just on the question of using the percent of defense in the area of GNP, I know that was used earlier in the presentation. I think for myself it is probably a better indicator to use constant dollars over a period of time, as we have seen these dramatic changes in GNP all over the world and that as a measurement, certainly in many other industrial societies they are using the constancy of purchasing power of various weapons systems, and I myself think that that gives them a more realistic kind of an assessment.

But that aside, I just wanted to clear up one point, Mr. Secretary, and that had to do with the carrier force levels. As I understand it, we had 12 carrier force levels in 1981 and we ramped up to 14, and the Navy had hoped to go to a 15 carrier task force in 1990 and that plan had basically been scrapped with the earlier retirements, and so in fact there really has not been a decrease in the carrier task force, as I understand it.

Secretary CHENEY. That is correct, Senator. I still have difficulty explaining that to the Navy. [Laughter.]

Senator KENNEDY. The only point that I think I would like to add to the mix is as we are looking at the total range of different assets that we would not want to start off, at least, I imagine, the argument by saying they have already lost one, when actually they are still at the same level that they had been and the decision had been to avoid ramping up.

I commend you for the assessment that you gave about the changed condition, certainly in Eastern Europe, and also in the Soviet Union, and I think particularly coming from the Secretary of Defense and also from the Chairman of the Joint Chiefs of Staff, this is something which is extremely important to understand in helping the Congress to make judgments in terms of what is essential for our security and the security of our allies.

I think it is not unfair to look at what is actually being requested in total amounts by the President and the administration. If you look at the figures going from 1986 it has been a 2 percent reduction in growth since that period of time, and basically what has been requested by the President falls within that same flow line.

If you just drew a line from 1986 up to the present it would be pretty much of a straight line down. So I think it is a fair question to assess, that if it continues just a fair line down, what is really the extent that you are taking into consideration the very dramatic momentous changes, that defense policy analysts believe that even if there was a dramatic change in the Soviet Union, either today or tomorrow, it would take a number of years to be able to reassemble.

You do not want to debate those issues, but I think it is important to at least understand that the administration's budget with its 2 percent, with all respect to the other lines, really is following a flow line that had been set in motion by Congress since 1986.

I listened carefully, as others, about your assessment of the Soviet strategic modernization program that has been brought home not only by your testimony as an observer in the arms control group, certainly by Richard Burt and the others, who are in the process of trying to work out the START agreement, but I think that has to be placed against what has happened over the period in the 1980s and then I will ask, really, a question.

Because during the 1980s we went ahead and bought a new bomber—the B–1. We had a new cruise missile for old bombers, a new submarine, a new missile for old submarines, a new ICBM, all during the 1980s, and the point man for this modernization program, Mr. Perle, indicated for the foreseeable future, I believe, that we can safely reduce the investment we make in protecting against massive surprise Soviet nuclear attack.

So as we look at the capability of the strategic force and even the modernization of the Soviet force, I think it is only fair to look at what has been achieved over the period of the 1980s to date, and then to look at what we have from the administration's request, which is in the across-the-board increase in the strategic programs.

You have 23 percent for Star Wars, 29 percent for B–2, 118 percent for MX, and those are just a small number of the strategic systems. I could go down a whole list of 10 or 15, which reflect similar kinds of interests.

So if the threat is lower, and we have just completed a major overhaul in terms of our strategic systems, I think it is fair to ask why we should not consider going slower on the new strategic bomber and why we cannot at least consider deferring the second air launched cruise missile, and why we have to triple the Star Wars spending program. We will be tripling it in the last 5 years.

Can we not at least consider foregoing any kind of increase? I believe that we have to have a modernization program, but does it have to be at this madcap pace that we had in the 1980s?

Secretary CHENEY. I do not want to repeat the arguments we offered earlier. It would be my assessment that the strategic threat, the threat of Soviet nuclear forces targeted against the United States has not lessened.

You might argue, I suppose, conceivably that the likelihood that they might be used is somewhat less today, and U.S.-Soviet relations have improved, but if you look at the capabilities, number of warheads targeted against the United States, accuracy of their systems, all of those things are being improved right now as we meet.

They are taking out old missiles, putting in new missiles. They are taking out inaccurate missiles, putting in more accurate missiles. They are taking down fixed silo-based systems and putting in mobile systems, which enhances their survivability.

So, there is no disagreement that the programs they have will continue, from our perspective, in terms of the increases you mentioned here. Some of them do have significant percentage increases, but I think it is important to look at the strategic programs, especially within the broader time horizon in which they occur.

What we are doing on the MX Peacekeeper, of course, is implementing the congressional decision to take the 50 Peacekeepers we currently have in silos and put them on railroad cars.

The increase in the MX this year to approximately $2 billion is a direct result of hitting the maximum year when we are spending on the Peacekeeper deployment. The number will go down in 1992, so there will be a percentage reduction by those standards with respect to moving from 1991 to 1992.

I mentioned earlier in my conversations with Senator Exon that SDI is going up because that is the funding profile we have to follow if we move strictly from the R&D stage eventually to the hoped-for decision to deploy.

The B–2, the same thing. We are on the uphill side of procurement. There will be a time down the road, once we have hit the peak, when we will be on the down side of procurement, just as we have been with the MX.

We happened to hit right now on these programs when the strategic modernization program is at its height, but overall, the total budget in terms of dollars to be saved, while there are some big-ticket items in the strategic account, most of what we spend is on conventional forces, and manpower, and not on strategic systems.

Senator KENNEDY. Well, the only point—and I would say, Mr. Secretary, is why does it all have to be done at the same time? Why, given the changes and the alterations in where we are in terms of this different world which you have talked about, and given the fact that, against the background where we have had this very remarkable enhancement of our strategic capability in the very recent years, why do we have to be going full bore on all systems at the same time, now?

As I understood your response, well, some of these decisions were made by Congress, but as has been pointed out by the ranking minority member at the opening of the hearing, this situation has changed dramatically in the last 7 or 8 months.

Because Congress said something a year ago, or 2 years ago, in terms of numbers and in terms of desired ends, why do we have to be doing all things now on every kind of aspect of that system, and in a manner that reflects sort of a full-bore, all-engines-go way?

Secretary CHENEY. The decision, of course, was made and recommended by the administration, our predecessors, and endorsed by the Congress that we were going to modernize the Triad and that

we were going to deploy the Trident system as a replacement for the Poseidon, which was getting old, and that we were going to do Peacekeeper, we were going to build and deploy the B-2 as the B-52s come out of the force.

I have inherited those programs. I think they are important. The President believes they are important. We have, in fact, tried to phase some of these things. We are doing Rail Garrison early because it is immediately available. The Small ICBM, which a number of Members of Congress have been interested in and have supported, is phased in later on; that is, we have staged them so we do not do them both simultaneously. So we have tried to take into account some of your concerns, although obviously we are still talking about big ticket items in many of these cases.

Senator KENNEDY. Thank you very much.

Chairman NUNN. Thank you, Senator Kennedy. I believe that Senator McCain is next. Senator McCain.

Senator MCCAIN. Thank you, Mr. Chairman.

Thank you, Mr. Secretary and General Powell, for being here. I think your statements are excellent. I also think it well to point out that both you and the President have stated here, and at other forums, that as conditions change we are willing to look at changes in the budget and our strategic as well as tactical requirements.

General Powell, I am pleased to note the forthcoming net assessment. I think it will help us prevent what I see coming down the pike, given the tenor of the questions of some of the other members of the committee; that is, the tendency to enact proportional cuts, which are the easiest and least painful to inflict on the services, but have the ultimate result of creating the same force structure as before diminished in size and ability.

The issue of the aircraft carriers, I think, is a classic example of that approach. There is very little doubt in my mind that we will return, over time, to our traditional maritime strategy. Not the most recent maritime strategy of carrying the war to Vladivostok, but the traditional maritime strategy of maintaining control of the sea lines of communications, coupled with rapidly deployable, mobile, lightly equipped forces.

I think the record is clear that there have been requirements for carrier presence and activity in the past far disproportionate to the size of the forces. I think the carrier will play the key role, or at least will be an important factor, in a future maritime strategy.

I was also pleased to hear your comments concerning the threat of atomic and biological chemical proliferation, and the means to deliver them, in the Third World. Of course, I particularly hope we will adhere to the primary goal of maintaining quality men and women in the Armed Forces.

Having said that, may I ask your views on Korea? I think it is generally accepted that we will be withdrawing some forces from Korea. I know the Secretary is going to visit Korea very soon.

What can we expect, how soon, and in what manner can we expect the administration to address the issue of Korean troop withdrawal?

Secretary CHENEY. Senator, we currently have underway in the Department, a study looking at our Asian force posture, directed, I

believe, as a result of an amendment offered by the chairman and ranking member of this committee.

There are some very important issues to be addressed in terms of our deployments in that part of the world. As I mentioned in my statement, and I think General Powell mentioned in his statement as well, we feel it is vitally important for us to stay forward deployed in the Pacific. We have important relationships and alliances.

What is not at issue is the degree of U.S. commitment to our friends and allies in that part of the world. What will be discussed, obviously, is how we can best keep those commitments; what kinds of forces we need there; whether or not we can make some changes.

If you noticed in the announcements we made on Monday of this week when we released the budget, there was the beginning of some modification of our posture in Korea. We are ending our presence at three bases there. I will be discussing the strategic situation and what our requirements might be, with my counterpart, the Korean Defense Minister, at the end of this week. I am sure we will have discussions on these and a number of other issues.

I will be visiting Japan and the Philippines as well.

At this point, I would be reluctant to say we can do X because, frankly, we will not make those decisions until we have, in fact, consulted with our allies. Clearly, these are issues that are under active consideration.

Maybe the Chairman would like to say a word about it.

General POWELL. I would say that is quite accurate. The threat does remain high there. The North Koreans have shown no serious signs of reducing their military capability, and we want to make sure that we are in a position to satisfy our commitments to South Korea. At the same time, we are reviewing our posture there to see how best we can do that.

Senator MCCAIN. I think it is of the utmost importance that you do it exactly as you suggest. I think the Koreans are much more sensitive to a unilateral decision than they are to one which is made in consultation and partnership with the Korean Government.

I also believe that they are psychologically receptive to some reductions. They understand the realities that we face.

With regard to the recent Japanese statements concerning their willingness to pick up a larger share of the burden, are you prepared to get the Japanese to quantify that contribution at any early date?

Secretary CHENEY. Obviously this is a subject we will discuss. I just had a session with one of their key officials from the Japan Defense Agency this week. They were in town to help prepare the trip.

I think it is important, where Japan is concerned, to know that oftentimes there is a tendency for problems to develop in terms of the relationship. There is a lot of controversy surrounding U.S.-Japanese relations, but the Japanese are, in fact, very, very good allies. They continue to increase their defense budget when most of the rest of the world is cutting theirs. They allow us to forward

deploy a U.S. aircraft carrier in Japan. They have contributed significantly to the cost of maintaining U.S. forces in Japan.

So the relationship is very good, it is sound, and we will continue to work to improve it. In the past, they have indicated a willingness to do everything they can to see to it that we keep our relationship on track and that they carry their fair share.

Senator MCCAIN. General Powell, what arguments can you make for the maintenance, much less modernization, of short-range nuclear forces, whose ranges are so limited they could only strike another part of the same country or nations such as Czechoslovakia, Hungary and Poland, who are clearly departing from the Soviet camp?

General POWELL. Well, as you know Senator, theater nuclear weapons and short-range tactical nuclear weapons have been an important part of our flexible response strategy for many years. The existence of those weapons is principally for deterrence, to let the Soviets know that should they start a conventional war and should it be necessary, we have the wherewithal to interrupt their conventional forces as they come across and that we would be targeting Soviet units and Soviet organizations and Soviet concentrations.

Now, obviously we are looking at ways in which we can get greater range into some of our short-range nuclear force (SNF) systems, but I think for the time being there continues to be a role for us to have artillery fire projectiles or atomic projectiles and other short-range systems until we have had a chance to get through the CFE negotiations and then see where subsequent SNF negotiations might take us.

Senator MCCAIN. I hope you have the time to do so. If Germany is reunified, I do not think German public opinion would support maintaining weapons which would be detonated in another part of their homeland.

Finally, Secretary Cheney, can you give us a time frame for these reductions in troop levels to 195,000? When would you realistically expect such an agreement to be concluded and the withdrawals to begin?

By the way, I was a little disturbed about the aspect of not demobilizing those troops. If we do not demobilize them, it becomes much more expensive to base them here in the United States.

Secretary CHENEY. Well, Senator, of course, it is important to remember that what we have in the CFE negotiations is an alliance-to-alliance negotiation on five categories of weapons, artillery, armor, helicopters, et cetera.

As a part of that but, strictly on a bilateral basis between the United States and Soviet Union, we are also negotiating a ceiling on U.S. Soviet-stationed personnel. That was the key item which was affected, of course, by the President's announcement last night that it would like to go to 195,000 in Central Europe and 225,000 Europewide.

I would anticipate that one of the key items that will be negotiated in the CFE agreement is a timetable for implementation. Now I think we can probably implement any reductions far more rapidly on our side than the Soviets can, especially when we talk about the

destruction of equipment that may be involved in some cases. The Chairman may want to comment on that in a second.

From our standpoint, I would think we can move fairly rapid once we have a treaty that has been negotiated, signed on both sides and ratified by the Senate. I see no reason, depending upon circumstances in Europe, why we could not in fact begin to move fairly rapid to bring down those forces.

With respect to the question of demobilization——

Senator McCain. May I just ask, are we talking about 1 year, 2 years?

Secretary Cheney. Again, it is a subject, I think, to be negotiated, but I would think within a year or two, certainly.

What we have in the budget we are submitting to you, is a proposal to take down two divisions in the United States. Those divisions are earmarked for Europe in the event of war. In terms of demobilization, what we want to do is shrink the total size of the force. It may be, for example, that you want to bring home a unit from Europe, demobilize a unit here at home and substitute the one from Europe for it.

You have to get down in terms of the total size of the force, and that will depend upon what your requirements are and which units are in what status, et cetera.

You are absolutely right, however. We are not going to save any money if we simply bring those troops home and deploy them at home. The cost will then basically continue. What we are trying to do is shrink the size of the force but do it in conjunction with those arms control agreements and not in anticipation of it.

Senator McCain. Thank you, Mr. Chairman.

Chairman Nunn. Thank you, Senator McCain. Senator Bingaman.

Senator Bingaman. Thank you, Mr. Chairman.

Mr. Secretary and General Powell, let me ask another question or two about Central Europe and the short-range nuclear weapons that we have there. I have great difficulty understanding how you justify the increases for which you are asking in funding for things like this Follow-on-to Lance short-range tactical nuclear missile.

I guess my concern is that, as I understand it, our plan to the extent it exists is that we would deploy it in West Germany, and the West Germans have advised us they will not let us do it.

Am I wrong in that?

Secretary Cheney. Well, the situation we are in, Senator, is that there is an alliance policy that we are party to with respect to the Follow-on-to Lance and the question of short-range nuclear forces in Europe.

Last May, at the time of the NATO summit when the President tabled his CFE proposal, we also negotiated with the allies, the so-called comprehensive concept which speaks specifically to the need for us to maintain modern and robust forces across the broad spectrum of capability, including short-range nuclear forces.

Senator Bingaman. That was before.

Secretary Cheney. Also including the proviso that we do not want to go to a third zero. We do not want to eliminate them. That is the alliance position today.

Now, if it is going to be changed, or if it is going to be modified, it seems to me it ought to be done within the context of the alliance and not unilaterally by the United States.

Senator BINGAMAN. Why are we not taking the initiative to change that?

I do not disagree. I think the allies should be consulted, but why not take the initiative to change that? This is ridiculous.

Secretary CHENEY. We have an agreed-upon policy within the alliance that says once we have CFE negotiated and we begin to implement it, then we will move on to the question of short-range nuclear forces. I think that is the appropriate framework in which we should consider that.

Again, events are moving very rapidly. It would be easy at this point for everybody to start making unilateral decisions to take down troops in Europe, for everybody to rush for the exit. The alliance has been so successful for 40 years, however, there is no reason now to dismantle it. We have obligations as a member of the alliance, and one of those obligations is that we continue to develop the Follow-on-to-Lance until there is a change in alliance policy.

Senator BINGAMAN. I would just suggest for your consideration that enough has changed from last May until the present that we should revisit that issue with our allies. I think it makes no sense for us to be going from $33 million to $112 million in this budget in preparation for developing the Follow-on-to Lance in light of the changes that have occurred. We are not going to be able to station it in West Germany, and the West Germans show very little interest in starting a nuclear war with East Germany. We need to just factor that into our thinking.

Let me ask you about——

Secretary CHENEY. Again, if I might for just a second, Senator, this is an important question in part because we have always believed that it was vital to have our conventional forces in Europe backed up by some theater nuclear capability.

Senator BINGAMAN. I am not suggesting we take out our nuclear capability.

Secretary CHENEY. That requirement continues, and how we satisfy it, whether through FOTL or some other system, is a very important issue, but we do not want to automatically walk away from the idea of nuclear weapons in Europe.

Senator BINGAMAN. No. I am not suggesting we just do that automatically. I am just addressing the continued buildup or the continued modernization and the continued increase in expenditures for Follow-on-to Lance—and the same with nuclear artillery shells. I have great difficulty seeing why we are going forward full speed in production of nuclear artillery shells. I would think those are things that we might just hold off on a little bit as we see whether or not some of the changes are in fact permanent. I would just suggest that.

Let me shift over to the SDI budget. These are figures I think we got from the SDI office. This year, as I understand it, you are spending $129 million on Brilliant Pebbles. Next year you are suggesting you want to spend $329 million on Brilliant Pebbles.

My understanding of that program is that if we test and deploy Brilliant Pebbles, we will violate the ABM Treaty. I have real problems, in light of that, understanding why we are continuing to shift more and more of our SDI resources to this program.

Secretary CHENEY. Well, Senator, the policy of the administration and the Department has not changed any with respect to the relation to the Strategic Defense Initiative and the ABM Treaty you have reference to.

We have a process by which internally we make certain that we are indeed in compliance with the treaty with respect to our testing program.

At some point, if we were to decide that we did indeed want to deploy space-based strategic defenses, or defenses beyond those allowed in the single-site requirement, for example, of the ABM Treaty, obviously that is a major decision the President is going to have to make. And he would make it in conjunction with the Congress, I am certain.

But we are not presently, nor do we currently have plans, with respect to the request we are making to you here, to do anything that violates the current obligation the United States has with respect to the ABM Treaty.

Senator BINGAMAN. If we did go to this funding level for the Brilliant Pebbles program, how quickly do you see us coming to the point where we wanted to test something? Can you tell us that?

Secretary CHENEY. Well, there are a lot of things we want to test. We test on a regular basis. The question is whether or not you would test in a way that would create the problems that are involved and surrounded in the ABM Treaty.

I would be happy to submit that for the record. I could not tell you precisely today at what point the profile, with respect to Brilliant Pebbles, would get us into a position where we have got to make that kind of a decision.

[The information follows:]

BRILLIANT PEBBLES AND THE ABM TREATY

Our program plan in SDI calls for flight testing in the Brilliant Pebbles program to begin this fiscal year (1990) and to continue through about the middle of fiscal year 1993. At that point in time we expect the Brilliant Pebbles program will be ready to enter the Full Scale Development (FSD) phase of system acquisition. We intend that all those Brilliant Pebbles flight tests be consistent with the ABM Treaty and with applicable laws.

Senator BINGAMAN. Well, referring back to one of your earlier statements here today, I think you indicated that if we did not go along with the increase in these areas, I think particularly in this program, it would postpone the prospects of a deployment decision way into the future.

Is it not in our national interest to postpone that decision?

Secretary CHENEY. Not in my opinion, Senator.

Senator BINGAMAN. You think we should be making a decision on deployment of space-based weapon systems?

Secretary CHENEY. I am one of those who believes very deeply that the United States has the capability, given the right level of effort, to begin thinking about deploying strategic defenses.

I believe that, given Soviet capabilities, the JCS stated requirement for us to be able to achieve a certain level of effectiveness against a Soviet first strike would add enormously to deterrence. I think it would add to overall international stability if we can begin to shift the regime and the emphasis away from strictly offensive systems to defensive systems.

And I think given the proliferation of ballistic missile technology in the Third World and weapons of mass destruction that, by the end of the century, we will be in a position where we would like very much to have some kind of defensive system deployed against these capabilities.

That is my view.

Our policy within the administration is to continue a robust R&D program on SDI so that at some point in the not to distant future the President will have the opportunity to make a decision with respect to deployment. And obviously, that would come to Congress and Congress would have to approve it.

We would like to do that within the next few years and not wait 15 or 20 years for it.

Senator BINGAMAN. Let me shift over to another subject. You state in your prepared statement that you would recommend that Congress "review the entire statutory framework governing defense acquisition management."

I am on a subcommittee that deals with defense acquisition management issues, and one of the problems we have always had is the inability to get very concrete statutory recommendations or recommendations for changes in statutes to deal with these problems.

Is it possible that this year, within the time that is needed for us to deal with it in the defense bill, we could get the Department's recommendations as to changes you would like us to make in the defense acquisition statutes?

Secretary CHENEY. Yes, Senator. That is something we have been working on within the Department for several months as part of the Defense Management Review ordered by the President.

Not only have we been making the kinds of changes that we are implementing unilaterally in the $39 billion we are going to take out of the next 5 years in this area, I had former Secretary of the Army, Jack Marsh, after he completed his tenure as Secretary, stay on for several months to help me and the staff in developing a legislative program not only in the acquisition area, but across the board, in terms of things we would like to see changed in the statute that would make it easier for us to manage the Department in an intelligent fashion.

That package is now working its way through the executive branch, in terms of seeking clearance. It addresses a whole raft of issues, some of which are the ones you touch upon. I would anticipate, in the not too distant future, we will be able to come back to Congress and submit to the committee for its considerations, some very precise and specific legislative recommendations that we think would improve the situation.

Senator BINGAMAN. Thank you very much.

I would just mention that I think we will be doing mark-up or at least hearings in the subcommittee starting in March. And if we

could have those kinds of recommendations in time to consider them in those hearings it would be very useful.

Secretary CHENEY. Senator, I have signed them out and they are now being looked at by OMB and going through the normal process. So, I think we can meet that deadline.

Senator BINGAMAN. Thank you very much.

Thank you, Mr. Chairman.

Chairman NUNN. Thank you, Senator Bingaman. Senator Lott.

Senator LOTT. Thank you, Mr. Chairman.

Mr. Secretary, General, thank you very much for your presentations today. And also I want to commend you for the outstanding job that I think you both have been doing and are doing.

The chairman mentioned earlier that this will be, I believe, the 6th year in a row that we have had a real decrease in defense spending. Somehow or another, that just does not ever seem to get through the media to the general public. I just do not think people are aware of that.

A lot has already been done in trying to find places where we can make savings. Obviously, you, Mr. Secretary, are working on that every day to try to make the Department more efficient. You made a lot of tough choices here.

When I look at these lists of deactivating two divisions, two battleships, two nuclear cruisers, right on down to WC–130 weather reconnaissance, which we will need to talk about a little bit more later. [Laughter.]

And all of these programs that you proposed to terminate, from the V–22, right down to the grenade launcher, you have already made a lot of tough decisions. In fact, some of us think maybe you are getting too caught up in this exercise. [Laughter.]

But somebody has got to do it. And you are doing that. And I think, overall, you should be commended.

You understand that with the presentation you have made, you have made suggestions of terminations and phase outs, and the Congress is not going to accept all of those. We will reject some of them and we will make some changes, and some additions and deletions in other areas.

And I know you recognize all of that.

But what worries me is that I am afraid that you have come up here with the budget that you really strongly feel we need, and that we really must have for readiness and to do the job.

And I have added a fourth line to your chart. The Reagan plan, the Bush plan, the January 1990 plan, and what the Congress is probably going to do, a further precipitous drop-off.

I do not think that is what this committee will do. But I think that is what the House Armed Services Committee will do. And that is the way the Budget Committee has been sounding in the Senate and in the Congress.

So you know I always assumed that when secretaries come up here they ask for this A line, and they know the Congress is going to come down under that. But I would just like for you to comment on that prospect and some of the things that Congress is talking about, what will that do?

I know events are moving fast. It is hard to keep up with them for you and for us. But I also think we cannot just rush headlong

into making unplanned cuts just to get the numbers which could be devastating to our overall defense capabilities.

Would you like to respond to that, sir?

Secretary CHENEY. Well, Senator, this is the first of many presentations General Powell and I will make on the Hill over the next week. We are going to visit with all of those groups you just mentioned, the House and Senate Budget Committees, and the House Armed Services Committee.

We have tried, I think, as a department, as an administration—it has certainly been the President's guidance to me, and the Chiefs have been very supportive as well—to submit a realistic budget.

One of the things I felt strongly about during my tenure as a Member of Congress was the importance of maintaining the credibility, if you will, of what the administration presented. The old notion that you come and ask for a high figure and you put a lot of fat in there knowing that you are going to get cut, is not something I enjoy doing. I think under these budget circumstances, it is totally unrealistic.

The decision I made this year, in terms of the kind of budget we wanted to go forward with, was based on the conversation I had with the senior leadership in the Department, where I put the proposition to them.

I said, look, if we come up here and ask for funding levels we know we are not going to get that show real growth in the out years, we are going to get cut. And we are going to end up coming back down to a significantly lower bottom line.

In the final analysis, we are going to have to deal with smaller forces and less money, but we are not going to get there through an intelligent fashion. Would we not rather go build a program based on a realistic funding level, so it has balance, and makes sense, so that force levels relate to procurement, and relate to R&D?

And that is what we have done.

There was unanimous agreement among the Chiefs and the service Secretaries that we would rather do a totally accurate budget—this is what we need, we recognize we are going to have a less-money kind of a budget, and be able to shape it—than go through the exercise that has sometimes happened in the past.

If we have to go to a significantly lower level of funding, if we get that sharper downturn that you have suggested is possible, then that has serious consequences for us. It means that instead of sort of an orderly restructuring of our forces, instead of a carefully thought out conscious strategy that takes us down in terms of reducing force levels, we end up with a lot of chaos in the system.

I will let the Chairman speak to the question of what happens to the force when we do that.

But, if you look just at the question of managing personnel, you can in fact take down force structure, do it in an orderly fashion, preserve the right kind of ratio between enlisted personnel and NCOs, and keep our senior NCO base intact, which is crucial.

If you do it in a precipitous fashion, in an unwise fashion, you are going to treat people improperly, you are going to force the kinds of reductions in force (RIFs) that do a lot of damage to the force, destroy morale, and affect the quality of the force.

So, what we need is the right kind of guidance, I think, from the Congress. We are here today to say, we are prepared to cut the defense budget. But please let us do it in an intelligent, orderly fashion. Let us not do it in an unplanned, disorderly fashion.

General POWELL. Senator, I would just like to echo everything the Secretary said. If you push us under the line suggested on that chart, and do it too fast, and try to get much of this done in 1991, you will start to break the force.

You will be pushing us into a demobilization mode. And that is not what is called for. We will start to do terrible things to our personnel system. We will start to RIF people. We will start to cut back too severely on accessions. We will start to put out these contract volunteers.

We will cut back precipitously on our readiness, our training funding, and we will start to break the great force we have put together over the last 10 years.

Congress for years has said "come up here and give us a realistic budget. Show us where you are going to cut. Show us what is really in the realm of the possible." I think that is what the Secretary has done. I think he is extremely bold and brave in doing it and I hope that we will enjoy the Congress' support.

Senator LOTT. We could probably spend a lot of time on that subject. But I wanted to get your response. And in view of the hour, I have just one other specific question.

You both referred to maritime superiority. And yet, in your budget proposal, looking to the future and changes that are being made, you propose eliminating $600 million that Congress put in there last year for the fast sealift capability.

The Army says they need it and want it. The Navy apparently does not like that idea. But you know, as we look to the future, do we not need that fast sealift capability? And how are we going to get it?

Secretary CHENEY. Well, Senator, again, it is a question of priorities. What we did, with respect to the fast sealift line that was put in by the Congress, was to send it back up as a recommended deferral.

One of the ways we are trying to save money to meet the target we were given of 1991, is to defer some items that had been put in the budget for 1990. We defer those to the out years through the deferral process under the budget act, and instead, allocate that authority to complete the buy of the M-1 tank, so we can shut that line down and complete the buy of the F-15 scheduled for 1991, so we can shut that down.

It saves money. It gets quite a bit of money out of the budget.

On fast sealift, again, we are talking about shrinking our forces. We are talking about a reduced presence in Europe.

Senator LOTT. Which increases the need for fast sealift, does it not?

Secretary CHENEY. Well, I do not know that it increases the need for fast sealift. That is one of the issues we are going to have to study and look at over the course of the next several months, as we put together our 1992-1997 POM.

We did not see it as a requirement that had to be satisfied in 1991.

Senator LOTT. Well, I think I would be satisfied if I felt like you are going to be actively involved in thinking about that, what the needs are and how we are going to get them, and a plan for getting there.

Secretary CHENEY. Those are the kinds of issues, Senator that are being reviewed in the 1992–1997 POM process as we rethink our total requirements, in terms of a changed situation in Europe.

Senator LOTT. Thank you, Mr. Chairman.

Chairman NUNN. Thank you, Senator Lott. Senator Dixon.

Senator DIXON. Mr. Chairman, Secretary Cheney, and General Powell, I want to say to you that I am appreciative of all of your contributions that you have made here this morning, and I think you have both been very fine, sound people in the positions you hold, and I am delighted to have supported you.

And I think I can say, Mr. Chairman, that the record is very clear that this committee, including the majority in this committee last year supported assiduously the position of the Secretary of Defense.

We communicated regularly with you. I think it is fair to say that the mark-up in our committee and the result on the Senate floor supported in fairly minuscule detail the request of the Secretary and the Joint Chiefs in that the bill we sent over to the House was a good bill. I am not as entirely delighted with the final result, but I think I can make that assertion on the part of the Senate.

Now, Mr. Chairman, I would like to have this statement of mine reproduced in the record in full.

Chairman NUNN. Without objection, it will be.

[The prepared statement of Senator Dixon follows:]

PREPARED STATEMENT OF SENATOR ALAN DIXON

Mr. Chairman, today's hearing is the first this committee will hold on the fiscal year 1991 Defense budget request and the administration's 5 Year Defense Plan. It is a pleasure to have with us the Secretary of Defense and the Chairman of the Joint Chiefs of Staff.

The United States is witnessing a period of historic change in the Soviet Union and Eastern Europe. These developments require Congress, in conjunction with the President and his administration, to look hard at fundamental U.S. defense strategy and force structure.

During the last few weeks, testimony before this committee indicates clearly that the Warsaw Pact threat to NATO security is no longer the same—at least in the near term. Yet, the most difficult questions remain unanswered. For example, what threats in Europe and elsewhere continue to face the United States and its allies? More challenging still, how should we act to protect our overall security interests in this world in transition?

Over the last few weeks, this committee has heard from Richard Perle and just the other day from Dr. James R. Schlesinger, former Secretary of Defense. Neither of these gentlemen holds a utopian view of the Soviet Union. Yet they both agree that the threat from the Warsaw Pact has been greatly diminished. They also remind us there are other areas of the world that we must be concerned about now and in the future. I join these distinguished men in their views. It is my hope that today's testimony will help us answer the fundamental questions we have been exploring in some depth. All of us must join together to formulate new policies to cope with the new situations which confront us globally.

The term "peace dividend" has caught on in Washington and in the news media. However, at this point Congress should focus more on the first word, "peace," and less on the second word, "dividend." The prospect of creating a more stable and secure world is the greatest opportunity afforded by the recent warming in U.S.-Soviet relations and the striking events in Eastern Europe. While recognizing the constraints imposed by Gramm-Rudman-Hollings on all budgetary decisions,

common sense dictates that any economic "peace dividend" should be the result of congressional thinking and rethinking, not the main force driving our actions.

We are at the beginning of a fundamental debate on the future of U.S. defense policy, not at the end. The major cuts much talked about of late are not an accomplished fact. Freed-up funds do not now exist. Any economic "peace dividend" that results from this process of rethinking U.S. defense policy will likely come gradually, and will probably not be as great as some anticipate.

If at the end of this debate we decide to change U.S. defense policy fundamentally to reflect a changed or reduced threat, the transition itself will not be cost free. Moreover, because the astounding developments in these areas have occurred so recently, we must preserve a hedge against potential reversals. Also, this new debate provides an opportunity to address critical national security issues outside the U.S.-Soviet framework that have too long been ignored.

Finally, no one doubts that the United States continues to be a superpower concerned about maintaining peace and stability in the world. We will therefore not stop needing sufficient Armed Forces. Yet U.S. defense spending traditionally runs in cycles.

I believe the United States must avoid the inefficient "feast or famine" attitude it has exhibited toward funding defense in the past. Critics have charged correctly that the previous administration during the first half of the 1980s poured too much money too fast into defense, and without enough thought. However, that does not mean that we should now undermine the basic commitment we have made to a strong, effective defense.

As I have reviewed this defense budget, I see this administration once again stressing strategic programs over conventional programs. We see programs such as the Apache helicopter being terminated because the Army wants to spend more money on a new light helicopter (LHX) program which is still on the drawing boards. The Army still can't explain to my satisfaction what it wants to do with this machine. Yet, they are killing a program that just went into production in 1982, and they have not bought enough to equip the Army Reserve and National Guard units.

At a time when this country should be looking to support programs which enable us, if needed, to dispatch forces around the world as we draw down our forces in Europe, we see this administration transferring money for fast sealift ships and from the C-17 program.

We see this administration taking money from the Guard and Reserve equipment programs which Congress has directed to be spent to modernize these units. Where are these scarce dollars being spent? They are being rechanneled to SDI and other strategic programs! The administration budget calls for the termination of the M-1 tank because the Army is going to buy a new one!

This budget reminds me of the 1950s when the late John Foster Dulles said we would use nuclear weapons to protect the Free world. Mr. Secretary, General Powell, there are other areas of the world we must be concerned with—the Persian Gulf, the Pacific rim area, South and Central America and other areas. This calls for us to have strong, deployable conventional forces. We do not need two Marine Corps. We need a strong Army, with some light forces, but we do not need two light fighting forces.

We must remember that the United States is a maritime nation, and the best way we have to project forces around the world is through the Navy and the Marine Corps. The Army needs to have some airborne units, and the 7th Division which is light, but we don't need to have the majority of their divisions too light to fight!

I am also concerned, Mr. Secretary, that of the bases you have indicated for possible closure, only 9 out of 46 are overseas. Not one Army overseas base is on the list! Not one! When the base closure legislation was passed in the 100th Congress, we directed that a study be made of all overseas bases. That study indicated that approximately 20 some bases could be closed! Yet the services are only asking for nine. That just won't hack it, Mr. Secretary. The West Germans are cutting their military strength by 20 percent. The Belgians are considering reducing their forces in West Germany. Mr. Secretary, events are overtaking the conventional force talks; the Soviets are pulling troops out of Europe. It is time we do the same. We could reduce our strength right now by just 50,000. That's less than what West Germany is cutting back to—to defend its own country!

Mr. Chairman, I look forward to hearing from today's witnesses. Thank you.

Senator DIXON. I just want to discuss two points with you, Mr. Secretary, and finally ask you a question.

I am concerned about the progress we are making both in force level reductions in Europe and Korea and around the globe and in

base closures, foreign base closures, and I want to discuss that in some detail.

First of all, last year we did not do anything as to troop reductions, as you know. Everybody kept saying that is what we are going to do next year.

The President had the proposition in the CFE for the 30,000 troop reduction, combat troops with commensurate reductions in tanks, personnel carriers, artillery pieces, aircraft and so forth, and nothing was done. And I am delighted at his remarks last night in the State of the Union Message about reducing our troop levels in Europe to 195,000, but I suspect, as was the case in your answer to my friend from Arizona, that nothing will be done for a couple of years.

Now, here are the points I want to make.

We have 305,000 troops in Europe, of course, with dependents, over half a million. I think something like 43,000 in Korea.

All of the testimony we have had up until this point, Mr. Secretary, by all of the witnesses that we have heard, including Dr. Schlesinger that I think can be fairly described as pretty much of a hard-liner in the context of the times in which he served has been that the sea has changed in Eastern Europe. Everything that is happening over there fully justifies reducing our force levels. He suggested a figure to us that if some Democrat here suggested it, it would be considered radical of reducing right now to about 75,000 to 100,000 over an appreciable period down to a level he said that would still be higher than it was before Korea.

Incidentally, I do not know those numbers, but I accept at face value what Secretary Schlesinger said.

Chairman NUNN. Senator Dixon, I believe he was talking about a residual force rather than exactly right now in CFE.

Senator DIXON. Yes, he was talking about doing it over a measured period. I thank the chair.

Now, what concerns me is that we will start our hearings in our subcommittees, my subcommittee that I chair, Readiness, Sustainability and Support will start in March.

We will have a mark-up probably around July in committee. My recollection—and the chair may correct me—is that in July right before the August break last year we did the mark-up in the Armed Services Committee.

Chairman NUNN. We hope to do it a lot sooner than that, but that depends upon the budget process.

Senator DIXON. Well, I thank the chair.

In any event, the point I make is that—and this is February 1—by about July 1 we are going to be getting into serious business about what we do in the authorization process, and the jurisdictional committee and following along with that what the appropriating people and the budget people do.

I put it to you that it is fine to have talks, but I think that this is next year. This is next year, the year we talked about for the last several, and I think we ought to do something in view of the changes in Eastern Europe.

I think we ought to do something in connection with troop level reductions in Europe. I think a 50,000 figure in this particular authorization bill and in the appropriating and budgetary process

would be not shocking at all and substantially less than the 80,000 that the President talked about in some time in his speech last night and at least 10,000 in Korea would be reasonable.

And may I say in connection with base reductions, I think you know, Mr. Secretary, I was the one that put the provision in the Base Closing Commission bill to study foreign bases. A study was made, and it was made internally in the Department of Defense.

You talked to the unified commanders all over the globe. It was DOD's recommendation that said you could close 20 bases, and only 9 are contemplated in the message that you brought to us.

And incidentally, I support your concept of you bringing us the bases and the Congress acting. I do not like nameless, faceless commissions. Nobody can talk to a meeting and get some top secret documents you cannot cross-examine. Let's do this kind of work that we are elected to do, and you have been confirmed to do. And so I support that.

But I want to make the point that I think we can close more foreign bases. I think the American people want it, that we can bring more troops home now with corresponding dependents right now from Europe and Korea. I think the people of America want it, and I think it can be done readily without in any way impairing our ability to successfully carry out our responsibilities as a great superpower all over the globe. I am serious about that.

And I simply want to say this before I ask my question, Mr. Secretary, that if the administration and those speaking for it cannot accomplish between now and July 1 something to bring back to us this year in the authorization appropriation and budgetary process some meaningful numbers we can act on, then I feel compelled inside this committee for the first time—and we have never done it before—it has always been others on the floor that did it—to take up these questions in this committee and have rollcall votes on these questions.

I believe it is time for us to respond to the need to reduce those force levels in those various places and other places across the globe, and I truly believe it is the appropriate and proper thing to do.

Now, I just ask you, Mr. Secretary, to talk within the administration in those places where you all meet and discuss these things throughout the spring now as we are in the subcommittee mark-up meetings and ultimately in the mark-up that takes place in the committee to come back to us with decent understandable, reasonable numbers that we can act upon this year.

Secretary CHENEY. Senator, if I might just respond. I do not think there is that big a difference between the objective that is embodied in the remarks you have just made, and where we would like to end up as an administration.

We might disagree over how much of a presence we maintain overseas. Clearly we want to maintain a presence overseas.

Senator DIXON. I do not have any quarrel with that, Mr. Secretary.

Secretary CHENEY. So, we agree on that. We are prepared to reduce the U.S. presence overseas.

President Bush has taken the lead, within the alliance in terms of moving us in that direction, with his proposal last May, and again last night.

When we think about Europe, from a military standpoint, from the standpoint of the United States, you have to think about our forces not only in terms of what is there, but also what is in the United States because it is part of a continuum.

We have four and two-thirds divisions over there, but we have a commitment to have 10 divisions there in wartime.

So, what we are doing in the budget we have submitted for 1991 is taking down two of those divisions, like the 2d Armored at Fort Hood, the 9th at Fort Lewis, that are earmarked to go to Europe in wartime. Ultimately, you are going to want to shrink that domestic base as well, too, given where we are headed with respect to overall spending levels in our strategic requirements.

As soon as we have an agreement, as soon as we have a treaty signed, if you will, between the United States and the Soviets, NATO and Warsaw Pact then we may begin the process of taking down those forces in Europe.

But, it is my guidance, and the guidance that has been given to me—and I think it is very sound—that we do not want to unilaterally take those forces out until we have completed the negotiations.

Senator DIXON. But you keep saying all the time—and I say this with full respect for you—you know that you and I have a decent relationship, and I generally support what you say—but you keep saying this stuff about agreements, all the time agreements.

The Germans are going to reduce their force levels by 20 percent in their own country. Without any agreement with us, the Belgians, the first country overrun, are reducing, and you are saying to us that we should make no reductions until you get an agreement with the Soviet Union.

I do not support that. They are going to get out of Eastern Europe whether they like it or not, without any agreement with the United States, they are going to be kicked out in Poland, East Germany, Hungary, Rumania, all over the place. Maybe in Estonia, Latvia and Lithuania, and they have got troubles, as you have pointed out, in Azerbaijan, and we are waiting here to do things until we have an agreement?

I am not saying strip it until we are naked. I am saying do sensible things now here in our country. Even without agreements, I think it makes sense.

I am not trying to be an unreasonable person. I am trying to say that there are reasonable, moderate, fair reductions we can make. When you say keep U.S. troops in Korea, when in that country that we have got 43,000 people. South Korea is three times the size and six times the economic muscle and we keep people there, my dear friend, Mr. Secretary, when you go back home and talk to people, they say this does not make sense, and you know why? Because it does not make sense.

Secretary CHENEY. If I may, Senator, let me try to answer it another way. Maybe we have bigger disagreements than I thought.

Chairman NUNN. Mr. Secretary, Senator Dixon's time has expired, if you want to leave it at that. [Laughter.]

Secretary CHENEY. I will be very brief, Mr. Chairman.

We took down troops from Europe in 1990, I believe some 15,000. We are taking down the INF troops.

I did announce on Monday of this week that we would be closing foreign bases. We are closing bases in Greece, in Italy, Great Britain and Korea. So we are not oblivious to the need to take down that force structure overseas. We have, in fact, started that process.

But, again, I come back to the proposition that it is not just a question of the United States, sort of unilaterally sitting over there in Western Europe just because we like being over there in Western Europe.

There is part of an alliance. We are the leading power of the alliance, we are the leader of the Free world. We created the alliance and we have maintained it for 40-some years.

We are now on the verge of winning one of the greatest victories in the history of the world without a shot ever being fired, because of our determination and our commitment to stay there, and to, in fact, provide the security needed for ourselves and our allies.

We see communism crumbling so that we can seriously contemplate the prospect of bringing home a lot of those forces. But, I would argue one more time, I think it is very important, and I think the President is correct from the standpoint of maintaining the alliance unity and having this process go forward in a way that enhances the prospects for peace and stability in Europe.

We should not unilaterally bring them home until we have an agreement.

Senator DIXON. Thank you.

Chairman NUNN. Thank you, Senator Dixon. I believe that Senator Coats is next.

Senator COATS. Thank you, Mr. Chairman.

Senator COATS. Secretary Cheney and General Powell, I appreciate your thoroughness with which you have presented the material this morning. I wanted to ask just two questions.

Number one, I know you share this concern as much if not more than I do, but it is very difficult for me to sort out and come to conclusions as to what we ought to do or not do when I do not have a clear picture in my mind of where I think we want to be 5 years from now.

We are so budget driven in our decisions that it concerns me that we will, for the sake of meeting budget targets, make decisions today that might go contrary to what our long-term strategy turns out to be.

Having said that, do you have a basic idea of when you might be coming forward with a longer range assessment of the threat where the force structure and all the other components, what it would look like 5, say 10 years out?

And I realize that is almost an impossible request. The events around the world or the threat around the world is changing so quickly that it must drive your people crazy. You put something down on paper one day, and it is obsolete by the time they come to work the next morning.

But, can you give me a sense or a feel for how that is coming and where it is going and how that might impact on our decisions this year?

Secretary CHENEY. Sure, Senator.

It is a key question, and let me just give you a fix on the budget we are now considering; that is, the 1991 appropriation and authorization that is before the committee.

Really, the work developing that began about 3 years ago. You could not have made decisions at that time that would hold today, if you had to operate only off of what you knew back in late 1987, early 1988.

We are now in the midst of the 1992-1997 POM process. This is the next 6-year plan—we are going to 6 years instead of 5 years because of the 2 year budget cycle.

Working backwards that will be submitted to Congress a year from now, and it will go to the President next fall. It will be worked within the Department aggressively over the course of the next several months. The CINCs are involved, the services, everybody is a part of it, and that is really the place where we sort of say here is the world, and give the services strategic guidance, give them fiscal guidance, and they then work the process of putting together programs to fit what we think our overall requirements are going to be. You sort of build it from the bottom up. And, that process is now underway.

At any given time in the Department, we are doing about three budgets. I had a meeting of the Executive Committee on Tuesday of this week. We dealt with the 1990 budget because we have some reprogramming requests up that are important to take the sequester for 1990, the year we are now in.

We dealt with the 1991 budget because we were getting ready for the presentation this week, and this is now before the Hill, and we dealt with the 1992-1997 POM process. So, at any given time we have all of these budget processes going forward.

We will do everything we can to advance the point at which we get information to the committee that might have an impact on 1991 before you get to markup. I am very sensitive to the problem that the gentleman mentioned earlier.

I would point out that what we tried to do to date with the 1991 submission is we did not just make minor modifications to the 1991 package. We have been working since October-November, looking at the changing world circumstances, looking at the collapse of the Soviet position in Eastern Europe, looking at the changes we see in the Warsaw Pact, beginning to make judgments about what kind of force structure we think we may require 5 years from now, and then feeding those decisions back into the 1991 budget. So there are some things in the 1991 budget that relate directly to that longer term view.

For example, taking down two divisions in the Army that are earmarked for Europe in wartime, stopping the M-1 production line on the grounds because we have enough M-1s, especially if we are going to shrink the size of the force, and we are going to shut down that procurement and begin thinking about R&D on the next generation tank. The same thing on the Apache helicopter.

So we have tried to shape the 1991 submission in light of what we think makes sense, given the best guess about where we will be 5 years from now.

Having said all of that, we are still in a position where you have to throw out a lot of qualifiers, taking down 2 percent a year. It is

possible, if we get a CFE agreement, if we get a START agreement, and if current trends continue. If those things do not happen, if there should be a sudden change in the direction inside the Soviet Union in terms of their foreign relations, if the situation should go to pot in some other fashion, then we will be back up here before the committee saying that forecast we have laid out is no longer valid. We have to take a different course because these conditions did not come to pass.

Senator COATS. Is it possible you could also submit to us at least some of your preliminary thinking relative to the 1992 to 1997 budget in this year which might impact on our decisions for fiscal year 1991?

Secretary CHENEY. Yes. Again, I would argue we have tried to do that and the 1991 package you have reflects exactly that kind of thinking.

Senator COATS. I assume over the next several months you will be making additional conclusions and decisions relative to that 6-year budget. To the extent that that could be shared with us, it might have an impact on decisions we make for 1991.

Secretary CHENEY. To the extent that it has an impact on 1991, we will be happy to share it with the committee. Within that it is the kind of thing where we are looking at the change in the force structure of the Air Force, down by five wings, five divisions of the Army, the review of the major aircraft programs, et cetera. That kind of work is now being done, and as we can feed it into the deliberations we will be happy to do that.

IMPLICATIONS OF LONG-TERM DECISIONS ON FISCAL YEAR 1991 DOD BUDGET

We have shaped the fiscal year 1991 budget not only to account for current conditions and defense requirements, but also to take account of where we will be in the outyears. The fiscal year 1991 budget marks the beginning of an important transition. We have been reviewing and analyzing conditions and requirements for months in preparation for the fiscal years 1992–1997 program review. We have incorporated some of the preliminary decisions in our long-term restructuring into the fiscal year 1991 budget. Our fiscal year 1991 budget decisions reflect confidence that negotiated force reductions are likely, that Soviet attack options will continue to decrease, and that NATO's warning time for a major attack will increase. Our fiscal year 1991 recommendations to deactivate two active Army divisions, to terminate conventional weapons, such as M–1 tank acquisition, and to close some bases support this longer-term thinking.

Senator COATS. A second and last specific question. In your presentation under budget priorities, you list, I think very correctly, people, number one, robust nuclear forces; number two, strategic defenses; three, versatile, ready, deployable, sustainable, conventional forces. You mentioned words like quick mobilization, special operations forces, sustainable conventional forces, deployable, versatile, et cetera.

Does that not lead you to the conclusion that a weapons delivery, a manpower delivery system like the V–22, would fit in that strategy? I mean, it seems like all those adjectives equal V–22. I know the difficulty in starting a new program given the budget constraints, but my question is if you were just starting from scratch with a blank piece of paper and designing the kind of force and equipment, transport equipment and so forth that you would want

for the decade of the 1990s, would the V-22 be at the top of the want list instead of the top of the hit list?

Secretary CHENEY. Well, Senator, I have never been a critic of the V-22 in terms of questioning the idea that it is a capability which would be nice to have.

My problem, when I came before the committee last spring, was that we had to find some way to shave $65 billion out of the FYDP, $10 billion the first year. Ten percent of that cut came from canceling the V-22. We saved about $10 billion by not doing the V-22 over the FYDP, and then you have to put money in for the helicopters to replace it, but it worked out to about 10 percent of the cut we needed last year.

The situation has not changed. The budget problems we are faced with are more stark and austere this year than they were a year ago, because of the developments in Eastern Europe. I like the V-22. I would like to be able to buy a lot of things, but it is at that stage where we are just completing R&D. We were ready to go, or getting close to the point where we take off, with full-up procurement of the V-22.

Rather than get into a situation where I try to buy everything and, therefore, run all the production lines at inefficient rates, I made the decision that we would not procure the V-22. I went along with the committee in the Senate, obviously, and the Congress when they decided we were going to go with R&D only, but I did not want to get into the business of procuring it.

There is no money for the V-22 in the 1991 budget that we have submitted. Obviously, Congress is going to work its will. I am sure this will be the subject of intense debate. My thinking has not changed on the subject. It would be a nice capability to have, but I think it is one we cannot afford.

Senator COATS. So it is a victim of timing and a victim of budget more than a victim of policy?

Secretary CHENEY. I think that is a fair statement.

Senator COATS. Thank you, Mr. Chairman. I ask that my prepared statement be made a part of the record.

Chairman NUNN. Thank you, Senator Coats. Without objection it is so ordered.

[The prepared statement of Senator Coats follows:]

PREPARED STATEMENT OF SENATOR DAN COATS

Mr. Chairman, I join my colleagues in welcoming the Secretary of Defense and the Chairman of the Joint Chiefs of Staff. Secretary Cheney, General Powell, I admire both of you and commend you for managing with skill and wisdom Americas security during a time of fundamental change. At the same time, I do not envy you, for your job is becoming increasingly difficult and thankless.

Given the pressures and uncertainties with which you must deal, Secretary Cheney, I believe you have done an excellent job in putting together the Department of Defense's budget for fiscal year 1991. While I do not agree with your every decision, I am very pleased with the overall thrust of your budget proposal. Before commenting specifically on the fiscal year 1991 budget request, I would like to make a number of more general observations regarding the changing global security environment and U.S. defense policy.

The accelerating pace of change in Eastern Europe and the Soviet Union, and mounting pressures in the United States and Western Europe to reduce defense spending, have thrown U.S. defense planning into a state of confusion. On the one hand, trends currently under way in the East bloc are likely to reduce the global military threat facing the United States and its allies. At the same time, however,

the ultimate nature of the emerging international order remains highly uncertain. Many old threats to U.S. security remain while new challenges are likely to emerge. Thus, as the United States deliberates new defense priorities for the 1990s we face a mix of encouraging and threatening signals.

The temptation is simply to stand by waiting for ambiguities to fade, or to race forward blind to the dangers that lie ahead. Neither approach is appropriate for a power with global responsibilities. It is precisely at such historical junctures that competent and creative policy-making is essential. Creativity and enthusiasm for change, however, should not come at the expense of caution.

Unfortunately, many people in the West, including responsible policy-makers, feel that we can now afford to discard American military strength, and that in so doing we encourage peaceful change in the Soviet sphere and elsewhere. This kind of rootless hope confuses cause and effect. Changes are taking place in Eastern Europe and the Soviet Union largely because the United States and NATO have been militarily strong and cohesive. The simple truth is clear—the American policy of peace through strength has worked and will continue to propel global change. The Soviet Union has permitted reform within its sphere of influence because of mounting pressure—domestic economic and political pressure, which has forced the Soviet leadership to confront the reality of its internal contradictions, and external pressure generated by a cohesive NATO alliance, which has convinced the Soviets that aggressive expansion is no longer a viable option. The premature dismantling of Western military strength would lessen the pressure on the Soviets to reform. Paradoxically, the process of positive change could thereby actually be slowed or reversed.

Dismantling the Cold War system and building a new East-West relationship based on trust and mutual benefit is clearly in everyone's interest, but the belief that we help promote political freedom and military reform in the Soviet bloc by unilaterally disarming, precipitously cutting defense spending or providing the Soviet Union massive financial relief is simply misguided. If the Soviets need economic support to finance perestroika they should look first to their bloated defense budget and the billions of rubles provided annually to Cuba, Nicaragua, Cambodia, Libya, North Korea, Ethiopia and Afghanistan. Military spending in the range of 15 to 20 percent of gross national product is hardly consistent with Gorbachev's stated policies of economic restructuring, democratization and military reform. Whether this level is reduced by 1 or 2 percent is hardly relevant to U.S. and NATO policy. The point is that we should not rush to fund economic reforms inside the Soviet Union, however worthy they may be in principle, before the Soviets face the fact that they must cut deeply into defense spending. In this regard, I agree with Richard Perle that "time is on our side."

As the communist regimes of Eastern Europe collapse under the weight of prodemocracy movements and as entrenched dictators seek to escape the wrath of their oppressed peoples, it cannot be denied that the European security environment is changing, almost certainly for the better. The Warsaw Pact appears dead in all but name, and it is most unlikely that the Soviet Union could rely on any of its East European "allies" to mount a military attack on Western Europe. Nevertheless, the Soviets themselves retain formidable conventional and nuclear capabilities, far more than necessary to defend Soviet territory. Despite Moscow's enunciation of a new "defensive doctrine" and a policy of "sufficiency," Soviet forces retain all the basic features of an offensive attack posture.

Transforming a huge offensively oriented military machine into one that serves more limited defensive functions is obviously a difficult and time-consuming process. There is reason to hope, therefore, that the Soviets will eventually fulfill their stated plan to create a military posture ill-suited for aggression. Before this transformation occurs, however, NATO's traditional mission will remain valid.

Despite widespread agreement on the need to maintain NATO, at least for the foreseeable future, many Western policy-makers and commentators seem willing to modify well-established criteria for judging the adequacy of U.S. and NATO forces. Military planning has traditionally been based on an objective assessment of the military capabilities of likely opponents, rather than on their stated intentions, which are inherently more opaque. Abandoning this planning standard would be a serious mistake. Although I am fully in support of encouraging, and to some degree rewarding, democratic change in the communist world, we must continue to base our military planning on what we see, not what we hear.

In this regard, it is particularly disturbing to hear emotional cries in the West to cut the U.S. defense budget in a drastic manner. Wasteful and unnecessary Federal spending is never justified, yet I fear that in an attempt to reduce the budget deficit

and reap the benefits of the so-called "peace dividend" we run the risk of discarding strategy and a thoughtful approach to setting our defense priorities.

In many recent discussions of "the threat," there has been a pronounced shift away from actual Soviet procurement and R&D patterns to the more optimistic scene of political reform in Eastern Europe. While changes in Eastern Europe have captured the world's attention, and will almost certainly contribute to a diminution in the overall effectiveness of Soviet military deployments, ongoing improvements in Soviet conventional and nuclear forces are equally remarkable. It is certainly appropriate to revise threat assessments as circumstances change, but this revision is generally a gradual and circumspect process. Even considering the speed of political change in Eastern Europe, the pace of change in Soviet military capabilities continues to be quite slow, especially in the case of Soviet strategic nuclear forces.

There thus remains a significant distinction between Soviet words and deeds, regardless of the dramatic changes in Eastern Europe. This has certainly complicated the process of assessing Soviet motives and intentions. Indeed, little consensus exists in the West on this subject. Interpretations range from the view that Moscow is orchestrating a grand deception to the belief that the Soviets are on the verge of becoming a Western-oriented democracy. Truth rarely lies in extremes, but there is some evidence to support the full range of explanations and perspectives. Evidence derived from what the Soviets are saying and what they are doing does not fit neatly into any single hypothesis about Soviet intentions. This ambiguity alone should be sufficient reason to retain Soviet capabilities as the guiding criterion for establishing U.S. and NATO defense requirements.

While all those involved in U.S. military planning must use the defense budget—and the deficit—as a frame of reference, it is particularly important that the Department of Defense use strategy to drive its budget and planning process. The fiscal constraints within which the DOD must onerous are obvious, yet if the strategic case for U.S. military policies and programs is not convincingly made in the Pentagon it will not be made at all. In this case, we may actually foster further inefficiencies and squander potential savings. Even worse, we will very likely end up with a force posture inappropriate for the 1990s and beyond.

This does not mean that U.S. defense spending should not decline, perhaps even significantly. If real savings are to be realized without risking Western security, however, a careful and thoughtful approach to setting U.S. military requirements and managing scarce defense dollars will be needed. It is incumbent upon the United States to manage cuts in military spending so as to maximize returns on our defense investments. Restructuring our military posture is one thing, reducing the effectiveness of our forces is quite another.

As the U.S. and NATO restructure and scale back their force postures, the development and application of advanced technologies will be increasingly important. Wherever possible, outdated technologies should be phased out and replaced with lower quantities of more advanced substitutes. The use of tiltrotor technology to fulfill many traditional helicopter missions is one salient example. Indeed, the menu of promising technologies is impressive, including low-observables (stealth), high accuracy guidance, advanced propulsion and lightweight materials. Exploiting these and other cutting edge technologies will permit the United States to maintain a formidable military during the next century while simultaneously reducing the size and cost of our deployments.

Let me now turn to several specific comments regarding the fiscal year 1991 DOD budget request. First of all, I agree with Secretary Cheney's prioritization of U.S. military requirements—his commitment to personnel, the maintenance of modern and adequate strategic and conventional forces, and his recognition of the growing importance of power projection. I am also extremely pleased to see the Department of Defense finally assume a larger role in the war on drugs and terrorism. In sum, Secretary Cheney has preserved a balanced and flexible military posture while managing to set defense spending on an increasingly downward course.

I am pleased with the ongoing commitment to strategic modernization. If strategic deterrence is allowed to erode, all other weaknesses and inadequacies in our military posture are magnified. A thoughtful approach to reducing defense spending and restructuring our military posture can only take place under the umbrella of a strong strategic deterrent—which, by the way, claims only 11 percent of the overall defense budget.

I am particularly encouraged by Secretary Cheney's reaffirmation of the importance of strategic defense. In an era of reduced nuclear forces, it is all the more logical to transition to a heavier emphasis on defense. SDI offers the possibility of greatly stabilizing the strategic balance in an era when U.S. and Soviet strategic

nuclear forces will decrease while ballistic missiles, nuclear weapons and chemical weapons may increase on a global scale.

I do have some concern, however, that our strategic modernization package contains one apparent contradiction—a two ICBM package. I am aware of the emotion surrounding this problem, yet I would hope that we would settle on a single missile and begin to forge a coherent posture for the future. In my view, given the nature of the emerging strategic environment and the likely outcome of the Strategic Arms Reduction Talks, it seems logical to move more rapidly toward a posture based on single warhead ICBMs.

I also regard as short-sighted the DOD's approach to the V-22 Osprey. I continue to believe that the V-22 represents the type of technological innovation that we should be emphasizing in restructuring our defense posture. Indeed, given Secretary Cheney's own priorities, tiltrotor technology in general and the V-22 in particular seem more important than ever. Certainly I recognize that the V-22 program as currently conceived would cost over $6 billion to complete. Yet, judged by the diversity and capability that would accompany this program, I submit that such an investment is well worth the cost. This near-term price would establish the foundation upon which much of our rotor-wing forces could be built. If, as Secretary Cheney suggests, we are to maintain technological superiority in an era of shrinking deployments, then canceling the V-22 was a mistake. It is this philosophy of technological innovation that supports going ahead with the B-2 bomber and the Strategic Defense Initiative, two programs I strongly support. I do not understand why, in the case of our rotor-wing conventional posture, we have decided to remain technologically in the mid-20th century when in other critical areas we are looking to the 21st?

Unfortunately, the Department of Defense has been forced to terminate major programs, thereby beginning to chart a course at the micro level, before we have a macro view of where we are going. I realize that immediate budget cuts are necessary for a variety of reasons; I would only hope that the DOD will move with speed to lay out a coherent strategy, designed for the 1990s, to guide the restructuring of U.S. military forces. As I mentioned previously, without such a comprehensive and forward looking plan, cuts will be made in an ad hoc fashion, ultimately undermining our ability to forge a strong and appropriate military posture.

Mr. Chairman, thank you for holding this hearing. Let me simply say in conclusion that I am confident that Secretary Cheney will skillfully advise us as we contemplate our future defense requirements. I hope that all my colleagues will join me in supporting his effort.

Senator NUNN. I believe Senator Gore is next.

Senator GORE. Thank you very much, Mr. Chairman.

Mr. Secretary and General Powell, I want to begin my time here by complimenting both of you on the job you are doing. I want to say that I think both of you are doing every bit as well as your friends who worked with you beforehand expected you would. That is saying a lot. Even though we have had disagreements from time to time, I really do appreciate and respect the job that both of you are doing.

The dramatic changes referred to by the President in his speech last night are, as many committee members have already noted, changing the strategic context within which you and we are going to have to face some very difficult decisions that loom just ahead of us.

Specifically, the changes in deployment of Soviet troops in Eastern Europe will change the requirements for U.S. forces in Western Europe. Although our forces are there not only because of what they are doing, nevertheless what they are doing changes what we need to have there.

How do you evaluate, Secretary Cheney, the demands by Czechoslovakia and Hungary for unilateral withdrawal of all Soviet troops from those countries and similar demands expected from other Warsaw Pact nations? How far do you think that process will go,

and what do you think the implications are for U.S. troop strength?

Secretary CHENEY. Senator, I think that is one of those developments that clearly nobody could have anticipated a year ago but, which obviously takes on great significance.

It would appear to be clear at this point that the Polish, the Czechoslovakians and the Hungarians, are all interested in pursuing the negotiations with the Soviets for the total withdrawal of Soviet forces from those countries. There have, in fact, been negotiations that I am aware of, at least between the Czechoslovakians and the Soviets.

Senator GORE. Already started?

Secretary CHENEY. Already started.

I think the total Soviet withdrawal from those countries is likely to be within a relatively short period of time. Significantly that is obviously not where the bulk of the Soviet forces are in Eastern Europe. Although, combined, all three of those countries probably have upwards of 200,000 Soviet troops located there. There are about 380,000 in the German Democratic Republic.

If you take the troops out of Poland, then the Soviets in the GDR have to go back across Poland in terms of their lines of supply back to the Soviet Union. So that begins to have a significant impact as well.

I think all of it is part of what we have tried to present as a significant change in the military threat that the Warsaw Pact represents to NATO. The Chairman might want to comment. He was recently in Vienna with all of the chiefs of defense of Western Europe and dealt with many of the Eastern Europeans.

General POWELL. I would certainly agree with the Secretary's assessment. I met with all of the Warsaw Pact top military leaders in Vienna 2 weeks ago, and I had a fascinating lunch with the six non-Soviet Warsaw Pact military leaders. The impression I came away with is that—the East Germans being less forthcoming than the others, but I think eventually that same ripple will reach over to East Germany—they are working arrangements and they are entering into negotiations to see Soviet forces leave their countries. Increasingly they are starting to reshape their own armies into national armies as opposed to armies that are part of a great, grand Warsaw Pact alliance.

So I certainly share the Secretary's assessment.

Senator GORE. If all Soviet forces are withdrawn from Eastern Europe, what troop strength levels would that imply for us in Western Europe?

Secretary CHENEY. At this point, Senator, the figure from the standpoint of the United States that we are pursuing, and that we think makes sense and would like to be able to retain, is the one that was announced by the President last night; that is, to go to 195,000 U.S. forces in the central zone, maximum of 225,000 Europe wide.

We think that makes sense because that preserves the essence of a corps, two divisions. It is a viable, usable military force. We think it is useful to have that kind of ground capability commitment to NATO. The President has made it clear that he wants to keep a significant U.S. commitment there, although it is significantly

below current levels. We would be down considerably from our current posture.

I think it is important to continue NATO and to continue that presence because of the stability that that brings to the entire European situation. As we see the changes now underway in Eastern Europe and as we see governments being toppled and Communist parties being abolished and reformed and elections being held and troops being withdrawn, that element of stability there I think is important. NATO provides that, and we are the heart of NATO in terms of that deployment.

So, it is the administration's position that we do in fact want to retain that presence there for the foreseeable future.

Senator GORE. Now part of the rationale has been, to put it starkly, to defend West Germany against East Germany; correct?

Secretary CHENEY. To defend West Germany against any attack from the East.

Senator GORE. So long as two Germanies remain as separate entities, the existence of two alliances, the NATO military alliance and the Warsaw Pact military alliance remains a conceivable proposition. If the two Germanies either unite or functionally unite, then the future of both military alliances is called seriously into question.

If all Soviet troops are withdrawn from Eastern Europe and East and West Germany are functionally unified, then how long do you think we should keep 200,000 soldiers in Western Europe?

Secretary CHENEY. Well, Senator, I guess I would make a couple of points in response to that. I think it is important for us to remember that there is no moral equivalence, if you will, between the Soviet position in Eastern Europe and the U.S. position in Western Europe; that is, the Soviet presence in Eastern Europe, the Warsaw Pact, is an alliance in name only. It has been the result of 40 plus years of the Soviet occupation of Eastern Europe, a residue of World War II.

It has been at the heart of the cold war. One of the major causes of the cold war was the Soviet occupation of Eastern Europe. Just as quickly as the Eastern Europeans have seen the opportunity to divest themselves of that oppressive presence, they have taken it.

I think it is, in fact, in our interest that the Soviets ultimately get out of Eastern Europe. Clearly, I think it is in the Eastern European interest.

NATO is different, and the U.S. posture in Western Europe is different. NATO is, in reality, not just in name, an alliance of free and sovereign states. The United States is there because our allies want us there. Our allies are not petitioning us to withdraw. On the contrary, they continually express the desire to have us maintain our presence in Europe. I think, long term, it is in our interest to do so.

My own personal view is that the number the President has put on the table is the right number.

I had the story, or the reminder, presented to me by one of my colleagues at a recent NATO meeting. He took me aside when there was a discussion of, if the Soviets get out of Eastern Europe should the United States get out of Western Europe. He said, look, just remember that twice in this century the United States has

been disengaged from Europe and has not been involved with Europe, been isolationist in our outlook, and twice you had to fight your way into Europe to preserve world peace.

Senator Gore: Neither time against the Soviet Union.

Secretary CHENEY. That is correct.

It is important at this point that the United States continue to be actively involved in Europe. That is a significant justification and rationale, I think, for our presence there, even though the Soviets may get completely out.

Senator GORE. I sympathize with the kind of response that you are offering, and we are all trying to puzzle through the emergence of a new strategic environment.

With all due respect, I think this is really not an issue of moral equivalence and is, instead, an issue involving who is the perceived threat; where is the perceived threat. It is still there. I grant you that. We all stipulate that.

If the Soviet Union realigns its forces to the point where it is no longer credible in any way to see a threat from the Soviet Union through Eastern Europe to Western Europe and if the basis for the division of Europe is eliminated if the two Germanies are functionally unified, then there will be a natural inclination for us to continue cranking down the same dusty road with the same orientation, the same basic strategy, looking for a new perceived threat.

The effort to shift the SDI program from a defense against the Soviets to an nth country threat or a terrorist missile presents a similar problem. What the chairman and others have been prodding us as a nation to do is to start from first principles and reexamine exactly what our strategic role must now be in a world changing so rapidly.

For example, in the CFE talks, we are sitting in a multilateral negotiation while the Soviets are now in bilateral negotiations with their allies. We are talking about floors when, in fact, these levels are going to become ceilings.

I think it is likely we will enter a period of I do not know what you could call it other than something like mutual unilateralism, where the United States and the Soviet Union on their own without quid pro quos start taking unilateral steps which roughly mirror the steps taken by the other, withdrawing forces on both sides at a roughly comparable pace as this new strategic environment is shaped.

Now is the time, not just because of budget pressures but because of restiveness among our allies and because of a need to maintain perception among our people that what we are doing makes sense. Now is the time to begin constructing that new strategic rationale and carefully and clearly define what our role in Europe is going to be.

Again, I will say I sympathize with the responses that you are giving, but I think that the rationale for continuing even these proposed levels is going to be more difficult to sustain.

Mr. Chairman, I appreciate the time, and if the Secretary or General Powell wishes to respond, I welcome a response; otherwise, I will conclude with that.

Chairman NUNN. Thank you, Senator Gore. I would hope, Mr. Secretary, you and General Powell would consider what Senator

Gore has said. I think it is one thing to talk about the appropriate level now under the present circumstances on the CFE. It is another thing to say this is the residual force that we are going to have, even under the assumption Senator Gore made, which was no Soviet forces in Eastern Europe, basically no Warsaw Pact, and a unified Germany.

At that stage it is a different ball game, and I think we have to take a look at it again as things go along, and I do not take your answer to be that we would not take another look as things go along. Do we have that much flexibility?

Secretary CHENEY. We certainly do, Mr. Chairman.

Chairman NUNN. The other item is if CFE I comes as quickly as we hope it does and as the President is projecting—I personally think it will not come before fall—but if we get a conventional agreement this year and we go into CFE II and we take the position going into CFE II that this is our level and we are going to stay here, it will not take long for the allies to grab all the reductions, and we are going to be sitting over there with the U.S. Army and virtually no allies and a questionable threat, and that would be a curious position.

I think we have got to be very careful vis-a-vis our allies because there are a lot of them, noble people that they have been over the years, and as much as they have supported the alliance, that would like nothing better than to disband their forces virtually and leave the United States basically defending Europe.

There are some of them that would like to do that and, as you know, we have worked a long time to get them to do their part, and we still, as I view it, are a long way from that.

And so I think we have to plug in not just the Soviets and not just the threat, although that is the beginning point, but also what the allies are doing and make it clear to them that what they do may have an effect on what we do.

I believe Senator Wilson is next.

Senator WILSON. Thank you very much, Mr. Chairman.

Mr. Secretary, let me just ask a question, and that has to do with your news conference the other day having to do with the list of potential base closures.

I find that in the testimony of Chairman Powell there is the statement on page 12 in the heading of East Asian and Pacific after making the statement that what is essentially an economy of force operation in the Pacific and Asia has purchased us peace, prosperity and stability and democratic progress, he goes further and says, we cannot afford to disengage in a major way from this region of the world. We have won too much. Our friends and our allies do not want to see us disengage. They know that politics and nature abhor a vacuum and that into the power vacuum created by a major United States disengagement from the region would flow only God knows what.

We have, as has been pointed out, been cutting defense spending for 6 years in terms of the real dollars involved and for not quite that long I have been saying to several of my colleagues that if we are compelled to choose among unwise options, or at least those things that we think are undesirable, that it probably makes sense to avoid repetition of the mistakes of the seventies, having a hollow

Army, Navy, Air Force, Marine Corps, that we would do better to have fewer people in uniform maintain the quality of our forces, and clearly you have come to the same conclusions yourself. I commend you and I commend Chairman Powell for enunciating those very clearly.

You have also, I think, made it clear that internally you do not believe in proportionate reductions, that you have taken a careful look and are suggesting that as we reduce force levels there be disproportionate cuts that are aligned with mission requirements. All of that I applaud, and I particularly applaud the statement that I have just quoted from General Powell, but all of that I find to be somewhat contradicted by the presence on the list of the possible cuts of West Coast naval bases.

I will not read you the deathless prose from the Secretary of Defense's annual report to the President and the Congress that has to do with force projection and the importance of a naval presence. The history of our military engagements since World War II more than vindicate your judgment in that regard.

You have said Monday when you made public the list that feasibility studies would precede any of those closures. I am not quite certain what it is that we are determining the feasibility of. I am not clear in my own mind what criteria will guide you in a determination as to whether or not to close these bases, but there does seem to me to be a gap between the nearly universal optimism and celebration that we are all engaging in with regard to the dizzying and dramatic impact of events in Eastern Europe, and the fact that in the West in the Pacific we do retain very heavy responsibilities which do require the ability to project force quickly and credibly into remote areas of the world.

Most of the actions that we have been compelled to take have been in the Pacific, not NATO. They have almost in every case involved naval presence.

I know that you are reluctant to give up any of the fast carrier task forces. How do you explain, then, the presence on that list of such a disproportionately heavy number of naval installations on the West Coast?

Secretary CHENEY. Senator, if I might take a minute and comment on the base question, because it has not come up this morning until right now. I have basically worked through the process I mentioned earlier, where starting last fall, we asked the services and worked with the services within the Department to develop a concept of where we would go given changed world circumstances and changed funding profiles.

They have come with significant force reduction concepts which we have talked about here this morning.

As part of that I think it is important that we also deal with the infrastructure that supports those forces. So, I directed the services some weeks ago to produce for me, their recommendations of how they would change base structure to fit with the altered posture we anticipate over the next 4 or 5 years.

So, some of the bases on that list are directly related to that kind of longer term thinking about where we would like to go.

There is a second category of bases that are on that list, and relates to items, and facilities directly involved with the Defense Management Review.

Now, we are, for example, shaping, reshaping, and streamlining the Air Force Logistics Command. We save about 10,000 slots by doing that. That affects about six major bases across the country that are tied into the Air Force Logistics Command.

Now, with respect to California. California gets hit nearly anytime you do anything with defense.

Our best historical data indicates that California firms won $23 billion worth of prime contracts in fiscal year 1988. DOD had a payroll in California of about $13 billion that year, including retired pay.[1]

If you are going to change the base structure that supports naval facilities, I would argue what the services came up with. It hit both the Philadelphia Navy Yard, as well as some of the facilities in the West. I do not think they tried to slant it.

There probably is a third category of items on that list, though, if I were to guess. There may be some facilities they would just like to get rid of because they are no longer efficient for them or because, given the overall scope of things, these are requirements they feel they do not have any further use for.

The process we have gone through now is to identify these as candidates for closure, which is what I am required to do, given all of the hoops I have to jump through before I can close a base and be forthcoming with the Congress.

We wanted to lay that out there that the kind of force structure changes we are talking about, long term, do involve cutting bases. I think the next procedure we go through will begin with the studies this year to look at their six different items that I have to submit to the Congress before I can actually give formal notice of a base closing.

We have to look at the environmental impact, we have to look at the local economic impact. We have to look at the operational impact on the service. We have to look at the strategic impact. All of these things have to be considered. Studies have to be done. That information then has to be submitted to the Congress and can only be submitted in January. I am not allowed to do it except at that time of the year when I submit the budget. I cannot do it in April or October, for example.

That material would come back around and then be submitted to the Congress, assuming the studies justify going forward with the closure or realignment. Then Congress has, I think it is 30 legislative days or 60 calendar days, in which to block the action, should that be decided.

So, on the new list we released on Monday, there are no facilities on there that are likely to be affected in terms of actually closing, probably until late 1991. It will take us that long to get to that point.

Now, why look at bases at all? I cannot say with certainty today that I agree from my perspective as Secretary of Defense with the

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[1] Source: Washington Headquarters Services, Directorate for Information Operations and Reports, *Atlas/Data Abstract for the United States and Selected Areas: Fiscal Year 1988*, pp. 6, 19.

specific recommendations the Navy made on west coast facilities. I do not know. I have not had a chance to look at it, and we ought to do all those studies.

What I can say is that as a general proposition, if in this period of building down our forces we are going to take all of the cuts in force structure, or procurement, or R&D, or operational readiness, and OPTEMPO, then we end up with an unbalanced force.

We have to take some bases as well. We have this administrative structure out there. It has a lot of people connected with it. I know there are a lot of jobs connected with it, but we spend money to maintain and operate those facilities.

If you are going to have fewer divisions in the Army, you need fewer Army bases. If we are going to have a smaller Navy, we need fewer Navy bases. It stands to reason.

And, the process we are engaged in is an effort to try to shrink the total force so that what we end up with is the kind of quality capabilities that we think is important.

Senator WILSON. Mr. Secretary, I understand the concept. I agree with the concept, but your force level cuts in the Navy have, I think, wisely not been a proportional—have not reflected a proportional reduction across the board with respect to all services.

And I would submit that as we go into this over the next year, some of the criteria ought to relate to whether or not the cost of military construction will be increased rather than diminished by some of the proposed closures.

I would suggest you look at the profitable as opposed to the unprofitable operation of those that are elements of the industrial base, that are essential not just to force projection, but to actual operation of naval forces.

Mr. Chairman, if I might ask some questions just for the record, noting that my time has expired, unless you are about to go into a second round, one of the questions relates to the statement that General Powell made at page 9 of his testimony, and it was under the heading Inescapable Reality of Nuclear Weapons.

I take it, Mr. Chairman, that you are endorsing Secretary Cheney's comments to Senator Bingaman with respect to SDI. It sounds like it from here.

General POWELL. Indeed, Senator, I am a great supporter of the program.

Chairman NUNN. Thank you, Senator Wilson.

Senator WILSON. Mr. Chairman, may I make one more request—not now, and I do not think we should do this in open session, but anticipating that sometime we will have an executive session on the role of the military in drug interdiction, I would like to ask in advance that the Secretary and the Chairman be prepared to specify in executive session what the specific assets and missions are that have been assigned to that task.

Chairman NUNN. Thank you, Senator Wilson. Senator Shelby.

Senator SHELBY. Thank you, Mr. Chairman.

Secretary Cheney, I just want to follow up on some of the things that the Senator from Tennessee alluded to a few minutes ago.

What is the future of NATO in view of what some strategic thinkers believe will be a de facto or a de jure united Germany and a neutral Germany?

I do not myself at this time envision NATO in being with any real sense of the meaning of NATO as we now see it configured if you have a neutral Germany.

Further, I cannot in my vision and others cannot believe that the Soviet Union is going to withdraw from Germany and other places in Eastern Europe unless as a quid pro quo on our part. Then there is the problem of a neutral Germany because there is always a lot of questions about a unified Germany. You see forces, as you have pointed out here in the committee, have gone must faster than anyone ever anticipated, not just the last year but in the last 2 or 3 months.

If, in fact, there is a unified Germany, let us say a de jure unified Germany, do you believe that the Soviet Union would move out of Eastern Europe and Germany, let that happen without a corresponding quid pro quo from us or is that wishful thinking?

Secretary CHENEY. Senator, I am inclined to believe we should not accept the notion that there ought to be a quid pro quo here. Clearly, there is a point at which, in the arms control business, especially in START, for example, where we are talking about putting ceilings on armaments where the notions of equity and so forth, parity makes sense. But, in the case of our presence in Europe, I come back to the proposition again that there is no moral equivalence between U.S. presence in Europe and the Soviet presence in Europe.

They were an occupying power. We are an ally. I think the way our allies treat us respectively says a lot.

It is the Czechosloviakins, Polish, and the Hungarians who are pressing for the removal of Soviet forces from Eastern Europe. So, for us to sort of automatically buy into that notion, seems to me, would be inappropriate also.

I think we want to avoid a situation in which we let the Soviets blame us, if you will, for their presence in Eastern Europe. I think it is important to break that linkage, and for us to accept the proposition, would, it seems to me, undermine that virtue of opposition, if you will.

At present the President has made it clear, as long as there is a NATO, as long as our allies want us there, there will in fact be a presence in Europe on the ground as part of NATO.

Senator SHELBY. That is what I am getting at, the central question, how long will there be a NATO or will there be a NATO if we have a unified Germany?

Is it realistic, say 3 to 5 years down the road? As you told the chairman, you are flexible. We have to be flexible to respond to events as they occur, but some of the strategic thinkers see the German momentum increasing. And I know what trouble we have had as far as modernization of nuclear weapons in Germany. General Powell knows that, you know it as Secretary of Defense, and I have discussed this at some conferences there.

I just see the political landscape changing tremendously in Germany, and our role in NATO accordingly. It has not changed to date and maybe it is not going to change tomorrow, but some people say 1 year to 5 years and NATO is gone. We will have to see.

Secretary CHENEY. Senator, of all those strategic thinkers, I cannot remember one of them who 1 year ago correctly predicted the demise of the Soviet position in Eastern Europe.

Senator SHELBY. Or the demise of the Berlin Wall.

Secretary CHENEY. There is no question that these are important issues. I do not know that I can shed any light on them this morning. We are trying to look down the road and anticipate developments because we have to do intelligent force planning; but by the same token, I am very reluctant to take sort of a hard and fast judgment about what fate has in store for Germany and for NATO.

My own view is that NATO has been an essential part of the alliance and the security arrangements, and Germany has been a crucial part of that. I would hope that what ultimately emerges from the current trends in Europe, will be a strong and united Germany that is closely tied to the West economically, politically, and perhaps, even militarily.

Senator SHELBY. Mr. Secretary, on another subject akin to what Senator Wilson was getting at a minute ago as far as a recommendation of your base closings, would you at some future time meet with some of us in the committee or the whole committee and discuss that subject in detail?

Secretary CHENEY. Certainly, Senator. I would be happy to meet with members who have questions about that. I know those are important subjects, given my time as a Member of Congress, and I would be happy whenever we can work it out, to sit down and discuss it. Certainly.

Senator SHELBY. Thank you.

Thank you, Mr. Chairman.

Chairman NUNN. Thank you, Senator Shelby. Senator Thurmond.

Senator THURMOND. Thank you, Mr. Chairman.

Senator THURMOND. Mr. Chairman, I have a statement of about 3 minutes, and therefore will cut my questions from 20 down to 4.

Chairman NUNN. All right, sir.

Senator THURMOND. Mr. Chairman, I want to join you and the members of the Armed Services Committee in extending a warm welcome to Secretary Cheney and General Powell. In my judgment, we have before us today two of the most dedicated and professional government servants in the Nation. During the past year they have left their mark on history with their incisive decisions regarding our Nation's defense and their decisive leadership in the execution of Operation Just Cause.

Mr. Chairman, I believe it is clear that the conventional threat in Europe has diminished, and the Warsaw Pact may no longer function as a military alliance. At the same time, however, we need to remind ourselves that the Soviet strategic capability has not diminished. We need to remember that the cold war in Asia still goes on, and we need to keep in mind that the threat of terrorism, ballistic missile proliferation and instability in the Third World are and will continue to be a challenge to our Nation.

Mr. Chairman, I agree that our Nation's defense posture needs to be realigned. The events in Europe, the changes in the Soviet Union and the current budget problems mandate such action. However, we cannot let the euphoria that is sweeping this Nation drive

us to unilateral and hasty reductions in our forces and defense budgets.

Mr. Chairman, I expect that every member of the committee will agree that this country's armed services must remain strong and flexible. How we achieve these capabilities is a matter of discussion and will consume a major part of this year's legislative agenda.

As the ranking member of the Subcommittee on Strategic Forces and Nuclear Deterrence, I applaud the President's commitment to the continued modernization of the Triad and his strong support for the Strategic Defense Initiative. I do, however, have some concern regarding the wisdom of developing two mobile ICBMs.

I have always been a strong supporter of the MX program and the rail garrison basing concept and will continue to be so. With regard to the small mobile ICBM, I am less positive. I suggest that in these times of budget deficits, we must carefully consider the need for two mobile missiles.

Secretary Cheney and General Powell, you have made very difficult and politically unpopular decisions in arriving at the budget proposal that is before this committee. Although I question the timing of certain provisions in the budget, I applaud your cautious approach toward cutting our force structure. I believe you have provided a budget that is good for the country and for the men and women who serve in our Armed Forces.

I just have four questions that I am going to propound. Secretary Cheney, I will propound yours first.

Secretary Cheney, I applaud your statement that we must vigorously pursue the Strategic Defense Initiative both because of the Soviet strategic missile threat and because of the proliferation of ballistic missiles in Third World countries. There are many members who believe that the SDI program should become more than a research program and that we should take some steps to develop a deployable system.

Based on the present funding level, do you believe the President will be able to make an informed decision on the deployment of an SDI system during his first term in office?

Secretary CHENEY. Senator, it has been our objective and our hope that we would be able to provide sufficient information based upon our research efforts and that that kind of deployment decision could be made before the end of 1992.

I think there is some question now about whether or not we could keep that timetable in light of what happened to last year's funding for the Strategic Defense Initiative. Every time we take a major hit on the budget, it pushes out that point of decision further into the future, and it will depend a lot in terms of the funding profile between now and 1992 or 1993.

Senator THURMOND. Mr. Secretary, last week there were indications that Belgium was planning to withdraw its forces from Germany and that the Dutch were planning similar moves. I believe that if these moves do take place, the legislation in the fiscal year 1990 Defense Authorization Act would mandate an equal U.S. force reduction in Germany.

What, if any, action has the United States taken to preclude the withdrawal of allied forces or reach some understanding on troop withdrawals?

Secretary CHENEY. Senator, we have debated these issues, discussed them, made clear the view of the administration and the views embodied in the thoughts of several of the members of this committee about what happens if there is a significant drawdown in Europe. The notion, for example that they could take down their forces and we stay. I make that point periodically when I meet with the other NATO defense ministers, four times a year, in NATO assemblies. I think it has been well communicated to them.

I think the developments in Belgium recently are worrisome, though, because it would indicate that there are at least some allies who are thinking about sort of heading for the exit to take immediate cuts. I would hope that we could avoid that sort of thing.

I think the firmness of U.S. leadership will have a great impact in terms of whether or not they proceed to try to do exactly that kind of thing.

Finally, I guess I would argue that, in his State of the Union speech last night, the President's decision to go forward to talk about lower levels of U.S. forces in Europe and U.S.-Soviet forces, makes it clear that the United States, while committed to NATO and want to stay committed to NATO, we also want to see to it that our allies do their fair share as well.

Senator THURMOND. I am sure you will promptly review this situation and stay in close touch with the committee.

Secretary CHENEY. Yes, sir, Senator.

Senator THURMOND. General Powell, I was pleased to hear your comments about the continuing need for modernization of our strategic forces. In your statement you indicate that the Soviet strategic forces are being shaped to conform to a future START agreement and that they are continuing a robust modernization program.

Although I am familiar with their modernization program, I have not heard that their forces are being shaped to conform to START. Would you clarify that statement and how our modernization program compares to a future START agreement?

General POWELL. In the decisions they have made with respect to the modernization of their land-based leg and the upgrade of the SS–18 with the Mod 5s and the numbers we see associated with that program and the work they are doing in the mobile systems and the work they are doing with respect to submarine launch systems as well as their air breathing leg, we can see that they are making no investments right now in their modernization program that they would have to throw away after the implementation of a START Treaty.

They are moving in a very measured way and balancing off their Triad in a way that when START is concluded under the current framework that exists, all their modernization efforts will be accommodated under the constraints of that START Treaty.

We are planning to do the same thing, and as we have testified here this morning, Senator Thurmond, we hope that Congress will support the President's program with respect to mobile missile programs. With respect to the B–2 and SDI, when START is concluded hopefully this year, we can have a well-balanced, modernized Triad

underneath the limits of the framework of the START agreement as we now see it.

Senator THURMOND. General Powell, I feel that something should be called to your attention. The January 20 edition of Defense News contains an article titled "DOD Budget Request Demotes Status of Reserve Forces in Future Conflicts". The article indicates that the Department is contemplating massive reductions of reserve troops, including about 20,000 armed reservists.

The article continues by stating that the cuts represent a philosophical shift in force planning caused by increased concern within the armed services of relying on reserves for such vital missions as strategic airlift and sealift.

Now General Powell, we all know that reservists played a significant role in providing air crews for Operation Just Cause, and I was dismayed when I read that it was alleged that the armed services would question the reliability of the reserves. I thought maybe you would want to comment and clear this up and give us your position on the reserve forces and the Department's position.

General POWELL. I appreciate that opportunity, Senator. As you know from our previous association, I am a great believer in the total force concept, and as we work our way through these difficult years ahead you can be sure that neither I—and I think I can speak for the Secretary—nor Secretary Cheney nor any of our colleagues have any inclination to downgrade the importance of our Reserve component forces. They are an essential part of the total force. They make a contribution every day, and, as you indicated, they made an especially important contribution to Operation Just Cause.

At the same time, however, as the resource levels are reduced, we will have to look at ways to make savings within our Reserve component structure just as we are trying to make savings within our Active component structure. However that works itself out, I can assure you that the Reserve components will remain an essential and vital part of our total force posture.

Senator THURMOND. A great many people feel that as the active forces are reduced, the most economical way to maintain a strong defense would be through the Reserves, as I believe it costs only about one third as much to maintain a reservist as it does a member of the active force. If you would look into this article, you may want to have some member of your staff talk to the editor of Defense News.

General POWELL. I will do that, sir, thank you.

Chairman NUNN. Thank you, Senator Thurmond and Senator Levin, and I believe that will complete, unless someone else comes in, the first round. And, Mr. Secretary, you need to leave at 2 p.m., as I understand it?

Secretary CHENEY. Well, we can stay until probably—well, let me check.

We could leave about 10 after. We are eager to wrap it up, but we understand.

Chairman NUNN. Do you need to, either one of you, take a break? We will not count it against your macho sheet.

Secretary CHENEY. No, sir. We have special qualification along those lines. [Laughter.]

General POWELL. After that, Senator, I would not dare take a break.

Chairman NUNN. Senator Levin.

Senator LEVIN. Mr. Secretary and General Powell, I am an admirer of both of you for many reasons, and now I am going to add an additional reason. [Laughter.]

You both have brought a real intellect and integrity to your positions, and we admire the way in which you have performed, both of you.

One of the differences that I have with the budget which you have submitted has to do with the belief that I have that it is out of balance, that the proposed cuts do not hit the nuclear side, but significantly hit the conventional side at a time that you are proposing to terminate 20 conventional weapons systems, many of them currently first-rate systems, deployed on our front lines, you are asking for an increase in every nuclear weapons system.

Mr. Secretary, you properly have said that we must face reality and cut the defense budget, and I agree with you. You proposed about $3 billion in savings by terminating conventional weapons such as the F-15, the Apache helicopter, the V-22 Osprey, the F-14 aircraft, AHIP, Phoenix missile, MAA II—that is the recovery vehicle, the M-1 tank, the Apache, I think I mentioned the Maverick missile, on and on and on. Those are conventional cuts—there are over 20 of them on that list—and again, about $3 billion.

But in the same budget you are proposing an increase of about $4 billion in nuclear programs, increase the B-2 by a billion and quarter, the MX Rail Garrison by a billion one, SDI by $860 million, advanced cruise missile $173, and on and on, including the Follow-on-to Lance for $80 million.

Actually you are requesting twice the amount appropriated last year for the MX and the Midgetman mobile ICBMs, a billion more as I indicated for SDI.

Even though the West German Foreign Minister Goencher has flat-out said that the Lance missile replacement will never be deployed, we see $80 million in there for the Follow-on-to Lance missile.

So, I think that the budget does respond in part to the new reality that everybody sees in the world, and I commend you for moving in that direction, but it only partially responds to that new reality.

Our current strategic nuclear systems are survivable and robust, even if the Soviets launch the nuclear attack today with no warning, we would have over 4,000 nuclear warheads to retaliate against them with, and if the number of warheads that the Soviets targeted on U.S. nuclear weapons were doubled, we would still have about 4,000 strategic nuclear weapons for retaliatory purposes because our alert aircraft and ballistic subs at sea would survive the attack, and that is the key, and it has been confirmed by the Congressional Record Research Service, as read from their document to me.

Even if the size of the Soviet attack were twice as large as what they currently could carry out, the United States would still have some 4,000 surviving strategic nuclear weapons.

Now, one example of the wrong priorities, in my opinion, is the MX Rail Garrison system. And the President's proposal, the 50 ex-

isting MX missiles would be pulled out of their hardened silos and placed on unhardened trains.

In this configuration MX is more vulnerable to surprise attack than it is in silos, and I want to give you some interesting figures on that—and this again came from the Congressional Research Service.

Regarding your specific question about the hardness of the proposed Rail Garrison MX system, the figures we used from open source material are 5 to 10 pounds per square inch for the trains while they are in the open. In garrison the trains sit in soft shelters that are not hardened. Their psi would presumably be slightly higher than when they are in the open, and that psi was 5 to 10.

But listen to this. By comparison the MX in silos today is estimated at about 2,200 psi. So, in silos now they have a survivability chance that is based in part on their psi of 2,200. When you move them from silos to trains, they are going to go down to about 10. That is a significant reduction in survivability.

The reason that they are being put on trains, allegedly, is that during alert they would be able to be moved. We have had exactly three crises in 30 years, so-called, under our defense condition system where our nuclear forces were placed on a high state of alert. So, in order to achieve greater mobility in that rare case when they are on alert, which will give you greater survivability, you are making them significantly less survivable against a surprise attack.

Right now they are significantly more survivable against a surprise attack, normal peacetime situation, than they will be on those trains, and yet we are going to spend billions of dollars to take them out of silos and put them in the trains.

Now, the reason for the strong push for nuclear weapons is that the Soviets are modernizing their nuclear weapons, and that has been one of the arguments, Mr. Secretary, that you have used.

I think that argument would have some merit only if we are willing to stop Soviet modernization by not building our own.

For instance, if we could stop the deployment of Soviet rail mobile SS-24 missiles by agreeing not to build the MX Rail Garrison system ourselves, that way your argument, it seems to me, would have some punch.

But in the absence of our willingness to forego the MX on Rail Garrisons, if the Soviets will eliminate their SS-24s, it seems to me that your modernization argument has a lot less persuasiveness to it.

And my first question to you then is that since the senior arms control expert of the Soviet General Staff has allegedly said that he believes it is possible to ban the SS-24 and the MX system in an agreement, would we be willing and if not why not, to get rid of the Soviet SS-24s, to terminate that part of their modernization system for foregoing our comparable rail based system, the MX on Rail Garrison and if not, why not?

Secretary CHENEY. Okay, Senator, if I might respond. First, just generally, to a couple of your comments and then zeroing in, specifically, on your question. It is indeed true that we are terminating a number of conventional weapons systems, but many of those you

mentioned are being terminated, specifically, because we already have a lot of them.

The M-1 production line will have cranked out over 8,020 tanks before production ends. In addition to that we have about 5,400 of the last version of the M-60A3. We have plenty of armor and if we are shrinking the force, we do not need as many tanks as we once had.

We really want to invest in the future and the Block III, so that is why we have made that kind of decision.

On the F-14, we now have 487. We are going to remanufacture rather than build new ones. We have 539 Apache helicopters and will procure a total of 807. We will procure 243 of the OH-58D Kiawa Warrior helicopters. We have over 18,000 Maverick missiles in the Air Force, and the point is, I think looking at these kinds of numbers, and given the expectations that we are faced with, we really think we can safely shut down some of those production lines and save some money.

With respect to strategic systems, I will not reiterate the arguments we made earlier today. We see that as the one place where there has not been a significant change in the Soviet threat. We think our strategic modernization programs need to go forward on the notion that the Peacekeeper is more survivable out of the silos than in the silos when you consider mobility and not only hardness.

Hardness alone is not the total measure of survivability. One of the reasons you want to go with the mobile system for the Peacekeeper is because the Soviets will not know where it is. They will, therefore, not be able to hit it, and you do not need the kind of hardness under that circumstance that you would if you still had it in the silo.

Senator LEVIN. You will not know where it is in normal time?

Secretary CHENEY. No. Once you have gone mobile.

Senator LEVIN. Just during a crisis?

Secretary CHENEY. Once you put it on the rails.

In terms of the notion of a trade-off between the SS-24 and the Peacekeeper, I would have problems with that primarily because I do not think you want to get into a position where the final result is, the Soviets have mobile missiles and we do not, and because at this time, the Peacekeeper Rail Garrison is our only system that is likely to be operational any time in the near future. The Small ICBM comes into the force in the late nineties. We would end up—if you were to cut that kind of a deal where the Soviets would give up their SS-24s on rail and presumably they would keep those in silos and we would keep ours in silos—where the Soviets would have several hundred SS-25s, their single warhead, mobile system deployed, and we would have none until the late nineties.

I do not think there is that much to be gained by giving up our only mobility in the land-based ICBM force that is going to be with us in the nineties for the Soviet capability that the SS-24 represents. That is my personal judgment. Currently that is not the position of the administration.

We have ongoing negotiations in START, but that proposal is not on the table.

Senator LEVIN. My time is up. I have just a personal request and that is in your next edition of the book that you get, Sawyer Air Force Base in Michigan, instead of Wisconsin. [Laughter.]

I hope there is not a signal in that. Can I assure those folks that that is unintentional, that it really belongs in the Upper Peninsula of Michigan?

Secretary CHENEY. Senator, if it is in the Upper Peninsula today, it is going to stay there.

Senator LEVIN. And also if you could correct the Upper Peninsula itself, you have got that showing as a lake instead of part of Michigan. [Laughter.]

Chairman NUNN. Now that you have it identified, Mr. Secretary, I suggest that you review that base very carefully. [Laughter.]

Senator LEVIN. I want to thank the Chair very much for that. I also ask the Chair that my prepared statement be made a part of the record.

Chairman NUNN. Without objection, it is so ordered.

[The prepared statement of Senator Levin follows:]

PREPARED STATEMENT OF SENATOR CARL LEVIN

Mr. Chairman, we are at the threshold of a new era in international security—one that by all signs will be marked by decreased East-West tensions, improved U.S.-Soviet relations, and reduced levels of armaments. The changes in Eastern Europe have been dramatic, and as many experts have testified in recent days, almost certainly irreversible

The most significant result of the changes in Eastern Europe and the Soviet Union is that the threat of attack by the Warsaw Pact against NATO is at the lowest point since the formation of that military alliance. The collapse of the Warsaw Pact as a military alliance has been hastened by the demise of Communist regimes in Eastern Europe. Simply stated, the Soviets can not rely on their allies to act in concert with them in an attack against Western Europe.

The reliability of the Warsaw pact allies has been in doubt for some time—for example a 1988 study of the military balance in Europe that I conducted pointed out that the Soviets faced a serious cohesiveness and reliability problem at that time. But the grassroots demand for democracy in Eastern Europe has split the military tie to Moscow asunder, and dramatized the lack of reliability of Warsaw Pact allies that previously had existed beneath the surface.

Since it has been widely acknowledged that the most likely path to nuclear war was as a consequence of conventional conflict with the Warsaw Pact—the threat of superpower nuclear conflict has also been significantly diminished.

We can take credit for having built the network of strategic and conventional deterrence that has helped keep the peace in Europe for over 40 years. We can now look forward to a future which should allow us to maintain national security at significantly reduced level of armaments. One way to codify the reduction of armaments is through the arms control process. And we are expecting a conventional force reduction agreement and a START agreement this year

While the defense budget that has been sent to the Congress makes recommendations for budget reductions, these proposed cuts are out of balance.

At a time when the administration is proposing the termination of 20 conventional weapons—many of them currently first-rate systems deployed on our front lines it is asking for an increase in every nuclear weapon system.

The Secretary says that we must face reality and trim the defense budget. So, he has proposed $2.9 billion in savings by terminating conventional weapons such as the F-15 fighter, Apache Helicopter, and M-1 tank. In the same budget he has proposed an increase of over $3.9 billion in nuclear programs.

This budget requests twice the amount appropriated last year (over $2 billion) for the MX and Midgetman mobile ICBMs. It asks for almost $1 billion more for SDI over last year's level. It even includes an $80 million increase for the Lance missile replacement—a weapon that most knowledgeable experts predict will never be deployed in Germany. West German Foreign Minister, Genscher, has flat out said so.

The world has changed but this defense budget only partially responds to the new reality. Our current strategic nuclear systems are survivable and robust. Even if the

Soviets launched a nuclear attack today with no warning we would have over 4,000 surviving nuclear warheads to retaliate against them with. And if the number of warheads that the Soviets targeted on U.S. nuclear weapons were doubled, we would still have about 4,000 strategic nuclear weapons for retaliatory purposes because our alert aircraft and ballistic submarines at sea would survive the attack. That is the key—if the Soviets increase their strategic forces, the number of our survivable retaliatory forces is not significantly affected.

One example of the skewed priorities in the budget is the MX Rail-Garrison system.

In the President's proposal, the 50 existing MX missiles will be pulled out of their hardened silos and placed on un-hardened trains within military garrisons. In this configuration, the MX is more vulnerable to surprise attack than in silos. In fact, both the MX rail car and the shelters in which they will be housed are significantly less hardened than the silos in which the MX currently resides.

The issue of vulnerability is especially important for those who believe the strength of the MX lay in its' mobility. In fact, the MX will rarely be mobile. In its rail garrison, up to eight MX missiles, with a total of 80 warheads, sit awaiting a call to alert. Stability comes from survivability. The MX in Rail Garrison is less survivable than it is now, except in those rare cases when our forces are generated. It cannot survive a surprise attack yet its destructive potential makes MX an especially inviting target for a surprise attack when just a few enemy warheads could eliminate 80 of ours. The reason is that the four trains are all deployed in unhardened shelters within a one-quarter mile area. In silos, each, MX missile is no closer than three miles apart.

In times of crisis, however, when our nuclear forces are generated, the MX train is supposed to pull out of the station and leave its vulnerability behind. What exactly is a time of crisis? Thirty years ago, the United States created the DEFCON or Defense Condition system. Since then, on three occasions world-wide U.S. nuclear forces were placed on a high state of alert. These events occurred in May 1960 during the Paris Summit Conference; October 1962 during the Cuban Missile Crisis; and October 1973 during the war in the Middle East.

But it is in times of crisis we need the MX least because our airplanes and submarines are generated in a time of crisis and we have more than twice as many survivable warheads available as in times of calm. The numbers here are important. In normal times some 4,000 of our nuclear warheads could survive a surprise attack on the United States. In times of crisis, more than 8,000 warheads would be survivable after our forces were put on a higher state of alert.

The fact is that for either a surprise attack or an attack that followed a crisis, the United States has more than enough nuclear weapons to launch a totally devastating counterattack against any enemy. This is the essence of deterrence, and every military official that has testified before the Armed Services Committee in past years have stated that we have sufficient nuclear deterrence.

Even if we accepted the notion that the Soviets could knock out every ICBM silo that we have, and destroy a portion of our bomber forces, and hit strategic submarines that are in port, we would still have about 4,000 nuclear weapons on submarines at sea and on bombers that could be hurled at the Soviet Union.

Just one Trident submarine carries enough nuclear fire power to destroy more than 150 city-sized targets and we have more than half our force of 35 Trident and Poseidon ballistic missile submarines always at sea. And, this scenario of an attack on our ICBMs does not include the nuclear weapons possessed by our allies, or our nuclear-tipped cruise missiles on ships at sea.

As some notable generals and administration officials have testified, it would be totally irrational for a Soviet leader to launch a nuclear attack when faced with such certain and potent retaliation.

Some will argue that we need to maintain the current level of strategic modernization because the Soviets continue to modernize their nuclear forces. This argument has some merit only if we are willing, for instance, to stop Soviet modernization by not building our own—again, for instance, to stop the deployment of the Soviet rail-mobile SS-24 missiles by agreeing not to build our MX Rail-Garrison system. But we have refused to do that—our position is that MXs be allowed in a new agreement.

Some will state that we cannot reduce our commitment to strategic modernization because these systems are needed in the START negotiating process. Yet, the administration is also involved in conventional force reduction talks and has no problem proposing the unilateral termination of first-rate conventional weapons.

In short, the administration has not provided the Congress with a defense budget that is balanced to meet our future needs. The President would rather have MX

missiles sit on rail cars on a military base than produce the V-22 which could improve the capability of our special operations forces—a force that has and will become more important in future conflicts we are likely to face. He would rather increase funding for SDI than produce modernized equipment for our ground forces.

The priorities in this defense budget are out of balance. I hope Congress will cut some nuclear systems—not just conventional weaponry.

Chairman NUNN. Senator Glenn.

Senator GLENN. Thank you, Mr. Chairman. I will try to be very brief. I know you gentlemen are on a short leash as far as time goes.

I wanted to mention the total force policy. If ever there was a study that I have seen that was important and timely right now in the way things develop, it is that total force policy review that we wrote into this as to what functions are going to be in the Regulars, the Reserves and the Guard. There are different capabilities in each of those areas. We have had hearing after hearing on these things.

I would urge that you make that absolutely the best report, the best study you possibly can because it is so important to us. It has to include threat definition. Are we going to be able to take care of things like that 40 percent——

Senator WARNER. Senator Glenn, may I associate myself with your comments on that? I heartily agree with you.

Chairman NUNN. As would I.

This committee is going to be considering that one very, very strongly, and I think the House is, too. So I hope you get some high level people that will really take a careful look at that. I would rather even have it a little later than not have a quality product. I think Senator Glenn is exactly right.

Senator GLENN. You wrote that in. I think in the threat definition, just because we have always done it for the last 30 years or so, we tend to think about Central Europe every time we think of a major threat. We need a threat definition so that we have an idea here of what we are building toward and forces and what the threat definition is.

Forty percent of the oil for the free world comes out of the Persian Gulf. If anybody took that and held it for 100 days, the free world would be in awful shape literally, whether it was the Soviets or Iranians or whoever might do it. We have to have forces to counter that. The Straits of Malacca and all the choke points and the economic pressure points that could bring us and the rest of the free world to heel are what we have to address as part of the threat and then tailor our forces for that with mobility and the forces to do things and still be able to get back into Central Europe if it was ever required.

I would just stress once again I think we are going to be relying on that. As Sam says, and I think rightly, we want this thing to be done right even if it takes more time.

I would hope that in order to make it available for some of our deliberations this year that we can work with you on this as we go along as different parts of this come together so it can be available for our guidance this year. I think it is very important, particularly how we do this, where we put people, how you train. I am chair-

man of the Manpower Subcommittee, and this is going to be an enormous problem as we scale down instead of up.

I think it is easy to scale up militarily. It is just a matter of somebody getting a little more of the pie. Everybody gets their nose out of joint over that, but everybody is expanded, and they love it.

Now we are cutting down. That is the hardest part, and we need this study in the worst way. That is more a statement than it is a question.

I do have a couple of questions, though.

Defense priorities. Personnel and quality of life; I absolutely agree with that every year and agree with that as a top priority. Our people are our most important resource.

I have, however, a little trouble reconciling that with the freeze on the COLAs for military retirees. That does not send a very good message to our people in military that once you retire we are going to whack away at you if we can. It is a freeze this year. Next year, as I understand it, it will be a CPI minus 1 from 1992 on, and that will be permanent. It is only for military retirees and nobody else.

I would like a comment on that, if you would, please.

Then there is another one that fits in under this personnel and quality of life item. Much of the quality of life is paid for by funds generated through the PXs and the stores and things on base, and that goes into the welfare and recreation fund to benefit people. Basically, the people there pay for that themselves. Those are funds generated by what the troops and the officers there pay themselves in those facilities, and they hire people to do whatever.

Yet, in this new legislation for reasons which I also do not understand we prohibit that now. I know we cut back 21,000 on civilian personnel, but we also apply that to the nonappropriated fund employees. It costs no one a nickel out of taxpayers' money. It is what the troops basically support in their own welfare and recreation funds, out of their own businesses in effect on the base. Yet, we prevent hiring there, too, along with the other things.

So I would like to hear your comments on those. I think they fit into this personnel and quality of life that you made number one on your priority list, which I share with you. I agree with that. It seems to me that freezing COLA retirees and making it CPI minus 1 and then also the nonappropriated fund employees, which does not cost a nickel to the taxpayer. I do not see why that restriction was kept in. Could you address those two things, please?

Secretary CHENEY. Yes, Senator. I would be happy to.

The question on the freeze on retiree COLAS is a decision that was made through the OMB process by the President as part of his budget submission that is government wide on all retirees. It does not apply just to the military, but to all Federal retirees.

Senator GLENN. Does that apply to all Civil Service retirees too across the board?

Secretary CHENEY. Yes, it does. It does not apply to Social Security, but to all Federal employees. It is a proposal. It has not yet happened, but that is part of the administration's budget proposal for fiscal year 1991.

With respect to the nonappropriated funds that you mentioned, that has been affected by the civilian hiring freeze that I imposed in the Pentagon. The civilian freeze has been put in effect to try to

get a handle on the total size of our work force. We have to cut back. I took the action and made the decision to impose the freeze to give us a better handle on that. It will run through the end of the fiscal year.

We have an exceptions process there, and with respect to nonappropriated funds, I have heard not only from you, Senator, but from a number of other people as well who make the very valid point that in fact, these are not appropriated funds, these are activities that are supported at the local level by local enterprises. It was not our intention to capture all of those activities in the civilian hiring freeze. Don Atwood, my deputy, is working today to make the necessary modifications to make sure it does not work a hardship, and is not imposed inappropriately on nonappropriated funds.

Senator GLENN. I hope you could take another look at that, because it just seems to me those are funds generated from within by the things they pay themselves.

Secretary CHENEY. You are correct, Senator.

Senator GLENN. Just one other comment. On some of the reductions we are making, we are apparently starting down the road of taking units and saying, like the Air Force is planning now, certain units will be at 85 percent strength and some at 90 percent strength, some in CONUS at 80 percent strength I believe it is.

I think we have to be very careful. I am not saying it is wrong up to this point. When you start cutting 20 percent out of your personnel, I get a little jumpy here as to whether they are still going to be capable of performing their missions. I know that varies from one type unit to another. I would just appreciate your comments on that as to whether it is to be our policy to in effect begin this process of hollow organizations, or is this just a step now until we can get our total force study done and see what we need and see what is going to be in the Regulars and Reserves. That will vary from one service to another, and maybe that will give us guidance. Meanwhile, we just sort of hold in place with this mechanism for now.

Is that the idea, or is this to be the way we operate in the Defense Department for the future with the scaledown in numbers of people per unit?

General POWELL. Senator Glenn, I can assure you that is not the way we are going to operate. You reach a point as you start drawing down strength that the unit becomes fragile and it cannot do its job effectively. People lose interest and pride and all the other things that go wrong in an outfit.

Senator GLENN. That is right.

General POWELL. One conscious decision that has been made by the Department and which the Secretary and I have talked about many times and are in absolute lockstep together, as are all my uniformed colleagues, is that we will not return to hollow organizations. We will take the force down to whatever size the American people and the Congress are willing to sustain it, but we will not have units that are unable to do their jobs, that have soldiers, sailors, and airmen and marines in them who are not proud of being in that unit. That is not the kind of armed forces the American people deserve.

Senator GLENN. Good. Thank you very much. I want to work with you as closely as we can on this total force policy so we can benefit from that this year, hopefully, and not wait until the next cycle. I think we lose an advantage here because this year is when there are going to be some cuts, and hopefully we can start tailoring things toward whatever the new mix of Regular and Reserve job assignments are going to be. I think we ought to get started on it this year. So we will work closely with you.

Thank you much.

General POWELL. Thank you, Senator.

Chairman NUNN. Thank you, Senator Glenn.

Mr. Secretary, we are going to get you and General Powell out of here almost on schedule. We have had a good hearing. You have been very patient. We certainly may have to call you back at some other point, but we do not, I think from the comments I have heard from Senators, need to get you back this afternoon.

Let me make just one final closing remark. This budget has been, I am sure, one of the hardest to put together in peacetime we have seen because of the changing events. The net assessment is hard. I did not go into as much detail on that as I intend to. Once we get a chance to read it and so forth, we are probably going to have to have another hearing, General Powell, strictly on net assessment.

There are blanks in the budget, and I understand why there are blanks in the budget. I am not complaining about those blanks, but I do think that we ought to note that there are a number of uncertainties in this budget.

You have an ongoing process to identify about $85 or $90 billion in the 5-year that has not yet been identified that could affect things that are already in there or at least our judgment about them.

You have an ongoing study under way, a comprehensive review, I understand, on five major systems, the B–2, the C–17, the ATF, the ATA and the SDI—two major tactical airplanes, a transport aircraft, the strategic aircraft, and the whole SDI program. Each of those programs is at least $30 billion, and some of them there is no telling. So you are talking about a minimum of $200 or $300 billion right there that we are going to have to wait for your analysis to make judgments on.

You have told us that you are also reviewing the overseas deployments, and that is another big situation.

I noted several times in your testimony, for instance, on base closing, Mr. Secretary, you said that in order to get that package we had to give an outline of where we expected to be in 5 years, so I know that you are working on that outline. The only point I want to leave with you is that we are going to have a lot more information before our markup to make final judgments. We may have to have another hearing or two.

It will be most helpful to us if, as you go along in your thought process, as you firm up your thinking, you continue a very close dialogue, even more than we had last year. As I view it, this budget, as you are telling us, can do some changing between now and the markup in terms of your recommendation.

Secretary CHENEY. That is correct, Mr. Chairman. We do greatly appreciate the forbearance of the committee in understanding that

we are in the middle of a fluid situation as we deal with the rapidly changing events in the world. Certainly, we will do everything we can as we develop views and conclusions on these studies to get back to the committee. We will be happy to come back in a formal session, or informally, any way that makes sense.

We clearly want to work very closely with the members of the committee to do everything we can to see to it that the final product this year reflects the very latest in terms of our thinking, and your thinking, about these key issues.

Chairman NUNN. Thank you, Mr. Secretary.

Senator WARNER. Mr. Chairman.

Chairman NUNN. Senator Warner.

Senator WARNER. Just to wind up, there is a little trouble, of course, with the policy on the CPIs for the retirees. You recognize we fought that battle last year, and it is almost like a gold watch. The administration takes it out, we put it back in. I am confident that I and others will work to bring that in and restore it again this year because I do not want dissimilar treatment for Social Security recipients and retirees.

Chairman NUNN. I agree with that, Senator Warner.

Senator WARNER. Also, it is against this background. In 1985 the committee took a lead in reforming military retirement, and at that time they took a 15 percent reduction in military retiree's pay. One of the issues was the CPI in return for the settlements we got. It seems to me that is a promise we cannot go back on.

So that is just a little warning shot across your bow, my good friend.

Senator GLENN. Mr. Chairman, I would ask if the witnesses would respond to written questions that can be included as part of this committee hearing?

Chairman NUNN. We will have a number of written questions from members who did not attend. We will screen them and try to eliminate duplications, but we do need to get your attention.

Senator WARNER. We have covered the Army, Navy and Air Force today, and we have omitted the Marine Corps simply because I think that they came through this budget process very strong; therefore, just leave them alone and let them do their job and everything will be all right.

I wish we had put more emphasis on the SOF. If there were any lingering doubts here in the Congress about the ability of those forces, Panama ended that debate. I think the Congress will be supportive of you, Mr. Secretary, and you, Chairman Powell, as you continue to increase the importance of those forces.

General POWELL. They fared well in the budget, Senator.

Senator WARNER. Ballistic missiles and the Middle East, in particular the security of Israel, is a subject with which we will deal extensively. I am concerned about that; therefore, I think SDI should begin to focus more and more in the area of seeing what we can do to provide a deterrent there.

Last, I am delighted that you, Mr. Secretary, and you, Mr. Chairman, while we respect Mr. Gorbachev and what he has achieved, we are not about to tie our foreign policy to that man or any one man or woman. He could be here tomorrow or gone tomorrow, so we will just chart our own course. I think you have done that.

Good luck.

Chairman NUNN. Thank you, Senator Warner. We will have a hearing here tomorrow morning with three former Chairmen of the Joint Chiefs at 9 a.m. in this room.

Mr. Secretary, General, thank you very much.

[Questions for the record with answers supplied follow:]

QUESTIONS SUBMITTED BY SENATOR SAM NUNN

CHEMICAL DEFENSIVE EQUIPMENT

Senator NUNN. Secretary Cheney, in its report on the National Defense Authorization Act for Fiscal Years 1990 and 1991, the committee took note of the inconsistency between the administration's decision to accelerate the removal of the existing stockpile of unitary chemical munitions from Germany and its decision to reduce the procurement rate and funding for Air Force chemical defensive equipment, particularly the Survivable Collective Protection Shelter (SCPS), which the Defense Department testified was essential to Air Force operations in a chemical environment. As stated in its report, "The committee does not believe that reducing funds for essential defensive capabilities is an appropriate action when in-place deterrent forces are being withdrawn." The committee restored $14 million for the SCPS in fiscal year 1990 (a restoral which was supported by Congress in both the authorization and appropriations bills) and recommended a fiscal year 1991 authorization of $92.632 million to procure 57 SCPS units. Despite Congress' interest in maintaining a robust SCPS procurement program, the administration's amended fiscal year 1991 budget request includes only $43.3 million for this item. In addition, I understand that CINCUSAFE has put on hold a contract solicitation for the procurement of 74 additional SCPS shelters in Germany pending a new study of total program requirements.

What portion of the $43.3 million requested for the SCPS in fiscal year 1991 would be used to procure SCPS shelters in Europe?

Secretary CHENEY. The $43.3 million requested is for the entire Air Force Chemical/Biological Defense Program, which includes protective masks, chemical agent monitors, and increased funding for transportable collective protection systems. The Air Force has deferred additional funding for SCPS pending finalization of planned reductions in SCPS requirements.

Senator NUNN. What is the basis for the sharp reduction in the amended budget request for funds needed in fiscal year 1991 for the SCPS system?

Secretary CHENEY. The Air Force has decided to reduce its total SCPS requirement due to the changing threat, changes in force structure, and increasing emphasis on flexibility of tactical forces. This resulted in a reevaluation of SCPS requirements from a cost/benefit perspective. As a result, the Air Force is seeking an increased quantity of transportable systems to better meet its changing collective protection needs. Concurrently, the Air Force is making a major reduction in its SCPS requirements.

Senator NUNN. What is the current status of the procurement by USAFE of new SCPS shelters using previously obligated funds?

Secretary CHENEY. USAFE is in the process of restructuring its procurement efforts for additional SCPS, since they are no longer responsive to the changing SCPS requirements. The funds will remain obligated while the Air Force makes the necessary program adjustments.

Senator NUNN. When does USAFE expect its review of total SCPS requirements to be completed?

Secretary CHENEY. The CINCUSAFE directed review of SCPS requirements is complete.

Senator NUNN. Will USAFE take any action pending completion of this review that would make subsequent execution of the procurement action impossible, presuming a requirement for additional shelters is validated by the review?

Secretary CHENEY. Having completed its review, USAFE is restructuring its procurement efforts to best meet the need for limited numbers of additional SCPS.

Senator NUNN. Will the Defense Department notify this committee and provide it with a report on the conclusions of the on-going USAFE review prior to any decision to cancel the suspended SCPS procurement action in USAFE, should the review conclude that additional shelters are not required?

Secretary CHENEY. As previously indicated, the review is complete, and the Air Force has initiated actions to restructure its SCPS procurement efforts to meet the

revised requirements. The Defense Department plans to submit a follow-on report to the committee explaining the recent changes in the Air Force's SCPS program.

B–2 AND START

Senator NUNN. General Powell, last summer your predecessor Admiral Crowe, told a number of the members of this committee that he personally, and the Joint Chiefs collectively, could not support a START agreement along the current lines, if the B–2 bomber were canceled, because of the asymmetry that would result, given the current penetrating bomber counting rules.

Would you tell us whether the Joint Chiefs still take this position regarding the START Treaty as drafted, should the B–2 be canceled, and would you give us your position as Chairman?

General POWELL. Senator, ending production of the B–2 bomber would cause the Joint Chiefs of Staff to make a very careful reassessment of the START Treaty as it is currently being negotiated by the United States and the Soviet Union.

As you know the Joint Chiefs of Staff have supported structuring our START negotiating strategy around the objective of increasing stability and reducing the risk of war. The "slow-to-anger" features of the manned, penetrating bomber are central to this objective.

Both sides agree the bomber is the most stabilizing nuclear system in that it can hold significant numbers of potential targets at risk in retaliation but cannot be regarded as a first-strike system. It is for that reason that the "Reykjavik bomber counting rule"places such a high premium on penetrating bombers. This rule counts the penetrating bomber loaded with an entire payload of nuclear bombs and short-range missiles as only one strategic nuclear delivery vehicle and one warhead against the ceilings tentatively agreed to in the START talks of 1,600 and 6,000, respectively.

I personally believe that ending the B–2 program would cause the administration to ask the Joint Chiefs of Staff to reassess the START Treaty from a military sufficiency standpoint. The outcome of this hypothetical reassessment and other deliberations could force the United States toward a major restructuring of the U.S. negotiating position.

BASE CLOSURES

Senator NUNN. Secretary Cheney, if your full base closure package is implemented as submitted to the Congress, what will be the total estimated savings? How long will it take to amortize the closure costs and begin to realize actual savings?

Secretary CHENEY. The lists of installations recently announced are recommendations for closure or realignment consideration, proposed by the services. Decisions on these bases will only be made after the required studies are performed. These studies will include projecting savings and closure costs.

Senator NUNN. Secretary Cheney, in drawing up this base closure list, what assumptions were made about the size of the military force structure and the level of overseas deployments of U.S. forces over the next 5 years?

Secretary CHENEY. The basic assumption is that our force structure will be reduced. This process has already begun. The force structure reductions are driven both by budget realities and the changing Eastern European situation. Additionally, overseas, the prospect of successful CFE and other negotiations allows for consideration of further reductions in Europe, both in facilities and in our operations there.

Senator NUNN. Secretary Cheney, does this list represent all of the closures related to the Five Year Defense Plan and the Defense Management Review, or will additional closures be proposed next year and the year after?

Secretary CHENEY. This list represents our current proposed base structure changes and management improvements that are considered appropriate. As new developments occur and as additional management improvements are deemed to be appropriate, other initiatives will follow.

FISCAL YEAR 1991 BUDGET

Senator NUNN. Secretary Cheney, your budget proposals include deferrals of prior year programs totaling $2.2 billion. $1.4 billion of this total is proposed to be transferred to fiscal year 1991 to fund programs in fiscal year 1991. What is the legal basis for these deferrals?

Secretary CHENEY. Section 1013(b) of the Budget Impoundment Control Act of 1964, as amended (2 U.S.C. 684(b) permits deferrals for three reasons:

1. to provide for contingencies;

2. to achieve savings made possible by or through changes in requirements or greater efficiency of operations; or

3. as specifically provided by law.

The proposed deferrals fall within category 2 and were submitted to achieve savings made possible by or through changes in requirements or greater efficiency of operations.

Senator NUNN. How do you answer the criticism that these deferrals represent a de facto line item veto?

Secretary CHENEY. Each of the deferrals is from a multi-year appropriation which is available beyond the end of this fiscal year. For $1.4 billion, deferral is proposed only until the end of this fiscal year or until Congress acts with respect to the requests to transfer the funds to fiscal year 1991 appropriations. Because the request was made in connection with the fiscal year 1991 request for appropriations, we expect that congressional action will occur prior to the end of the year. When this happens, funds will be available for obligation either in accordance with the original congressional action or subsequent action, as appropriate. Regarding the remaining $800 million, the funds are temporarily on hold pending determinations as to their need based on changed requirements.

Senator NUNN. Do you believe that deferring spending on programs appropriated by Congress above levels desired by the administration complies with the legal prohibition in the Impoundment Control Act against deferrals of programs for policy reasons?

Secretary CHENEY. The deferrals received careful scrutiny by legal counsel for the Department of Defense and the Office of Management and Budget, who determined that they complied with the law.

CFE

Senator NUNN. Secretary Cheney, in your opening remarks, you referred to an "aggressive follow-on to CFE." Yet in a background briefing at the White House on January 31, a "senior administration official" said that he could not envision a further reduction of U.S. troops in CFE-II. If the administration is not inclined to use CFE-II to negotiate further reductions in U.S. troops in Europe (i.e., below the 225,000 ceiling now proposed for CFE-I), what would constitute an "aggressive follow-on to CFE?" Can you envision a CFE-II in which NAT0 proposes reductions only on the Soviet side?

Secretary CHENEY. The administration's position on this matter is as the President stated to Congress in his State of the Union Address to a Joint Session of Congress this year.

QUESTIONS SUBMITTED BY SENATOR JOHN GLENN

V-22

Senator GLENN. Secretary Cheney, as you know, in early December I wrote to you, as others did, to express strong objection to your decision to terminate all V-22 contracts funded by fiscal year 1989 procurement funds. As I stated in the letter, I considered this action to be in direct contravention to congressional guidance regarding the fiscal year 1989 V-22 procurement funds that was contained in both the fiscal year 1990 Authorization and Appropriations Acts.

Now I see that you have not included any V-22 R&D funds in the fiscal year 1991 budget, although the planned test program is not complete. It seems to me that even if a decision is eventually made not to produce the V-22—a decision which I think would be a serious mistake—it is imperative that we fully test the six aircraft that have already been contracted for.

First, will you tell the committee why you terminated the fiscal year 1989 procurement contracts, essentially preempting a V-22 procurement decision that was to be made by both DOD and Congress later this year, after the receipt of a Cost and Operational Effectiveness Analysis?

Second, why has DOD chosen not to complete the V-22 development and operational flight test program?

Secretary CHENEY. With the substantial reductions we are making in the defense budget in light of the changing world situation and fiscal constraints, we face many tough choices. There are many new systems that would be useful but that we cannot afford in light of other, more pressing priorities. Consequently, we have terminated procurement of a number of lesser-priority programs, including the V-22. As soon as we made the tough decision on the V-22, it was incumbent upon us to

recover for the taxpayers the fiscal year 1989 funds obligated but not expended for V-22 procurement. The administration has sent the Congress a formal deferral notice for those funds, in accordance with applicable law.

Similarly, stewardship of taxpayer resources requires that we not continue to develop and test a system we have no plans to procure. The fiscal year 1991 budget request does not, therefore, contain RDT&E funds for the V-22.

V-22

Senator GLENN. Would you provide for the record what development and operational flight test requirements will not be met if R&D funds are not provided in fiscal year 1991?

Secretary CHENEY. If the R&D program is not funded beyond fiscal year 1990, approximately 3,700 hours of flight testing would be left undone. That figure represents what would remain from the November 1989 test schedule, consisting of some 4,110 flight hours.

The test program is divided into three phases. Phase I consists of envelope expansion, flight control development and qualification, and preliminary avionics development. The object of this phase is to verify the design and to certify the airworthiness of the aircraft. Phase II consists of full envelope expansion and technical qualification. Phase II, which was to have begun in fiscal year 1991, consists of the following tasks:

—Full envelope expansion
—Aeroelasticity, flight loads, and vibrations survey
—Hydraulic and electrical system demonstrations
—Primary/automatic flight control system development and demonstration
—Avionics development and demonstration
—Propulsion and performance demonstrations
—Climatic condition testing

Phase III is the Operational Test (0T) program. It was scheduled to begin in fiscal year 1991 and to be completed in fiscal year 1992.

If funding is not provided beyond fiscal year 1990, Phases II and III would not be executed.

CONFERENCE ON CONFIDENCE AND SECURITY BUILDING MEASURES

Senator GLENN. General Powell, I read with interest, media reports of the recent 2-week meeting of top military leaders from Eastern and Western defense alliances that you attended in Vienna. I understand that this meeting was organized as part of the Conference on Confidence and Security Building Measures and was unprecedented in scope.

Will you briefly summarize the highlights of the meeting for the committee?

General POWELL. From January 16 to February 5, 1990 in Vienna, Austria, the 35 nations of the Conference on Security and Cooperation in Europe participated in a seminar on military doctrine. The seminar was an integral part of the Negotiations on Confidence-and Security-Building Measures, also taking place in Vienna, and its purpose was to allow for a discussion of military doctrine in its relation to the posture, structure and activities of conventional forces in the area from the Atlantic Ocean to the Ural Mountains.

The seminar was convened through a Western initiative and was conceived as a one time event. Moreover, the meeting gave us an unprecedented opportunity to interact with military delegations from the Soviet Union and the other members of the Warsaw Pact Treaty Organization about the historic events unfolding in Europe.

The seminar was divided into four areas: (1) overall national military doctrine, (2) training, (3) budgeting and the (4) US military force structure and posture in Europe. I gave a presentation on the role of US military doctrine in US National Security Policy. Other speakers included Major General John D. Robinson, the Director of J-8, Lt. Gen. Edwin S. Leland Jr., Chief of Staff of European Command and Dr. David Chu, Assistant Secretary of Defense for Program Analysis and Evaluation.

The highlight of the seminar was the unprecedented opportunity for the military chiefs of defense of the 35 nations to convene and to conduct a professional exchange on subjects of mutual interest. It was significant that we achieved our goal of advancing openness in the area of military doctrine.

DOD AIRCRAFT REVIEW

Senator GLENN. Secretary Cheney, I understand that you have directed a major review of the B–2, C–17, ATF, and A–12 aircraft programs, with the results to be provided to you by March 30, 1990.

Will you tell the committee the purpose of the review and how you intend to use the results?

Secretary CHENEY. The purpose is to examine what aircraft capabilities the United States needs that are not provided by currently produced aircraft; the extent to which these aircraft programs will provide those capabilities; and fiscal and acquisition strategy considerations, including cost, schedule and performance. The results of this review will be considered in determining the future disposition of these aircraft programs.

HOMEPORTING

Senator GLENN. Secretary Cheney, General Powell, I was surprised to see that your list of candidate bases for closing did not contain more of the Navy's 13 Strategic Homeports. With the Navy drawing down in the number of active and reserve ships, how can we afford to open and operate these new bases?

Secretary CHENEY. We must achieve a balance between force structure and base structure. Achieving and maintaining that balance will be a significant challenge for the years ahead.

Changes have already taken place which require us to revisit strategic homeporting. Our plan was to homeport *Iowa* in New York and *Wisconsin* in Ingleside. *Iowa* and *New Jersey* will be deactivated in fiscal year 1991. In addition, we do not plan to expand to 15 carrier battlegroups. These changes alone necessitate that we review our homeporting plans.

With respect to why none of the new strategic homeports were proposed for study for closure/realignment, the Navy was looking principally at existing bases. During review, we found that bases with extensive facilities and infrastructure (e.g., San Francisco) offered the best opportunities for savings. Some of our older, established facilities are nearing the end of their useful life and require extensive renovations and/or maintenance to operate and meet current safety codes. Recent years' funding shortfalls have affected proper operation and maintenance of the Navy's supporting infrastructure. Upgrading and maintaining older facilities at existing bases must be weighed against the costs of constructing and maintaining new bases with modern facilities, which have been specifically designed for some of our newer class ships.

In addition, strategic homeporting evolved from principles which are still applicable, even though we are not looking at a 600-ship Navy. We want to disperse our forces to improve our defensive posture, improve training opportunities by homeporting in more diverse geographic locations, reduce travel time to potential areas of operation, collocate ships to form balanced battlegroups, maintain an adequate industrial base by placing ships near existing private sector industrial capability, and develop additional logistic support complexes to sustain our Maritime Strategy. Granted, these principles must also be reviewed in context of any changes in our force structure and the events taking place so rapidly in Europe and the Soviet Union.

RESERVE AND NATIONAL GUARD END STRENGTHS

Senator GLENN. Secretary Cheney, in addition to the Active force reduction of 91,000 over the next 2 years, the Reserve forces are being reduced by 19,000, with the bulk of the reduction equally divided between the Army Reserve and the Army National Guard.

The base closure package you sent over also suggests additional, large reductions in Army Reserve and Army National strength and force structure.

How thoroughly have you examined the force mix in the Army, and are you satisfied that the Active and Reserve roles in the Army will be balanced under the realignments you suggest?

Secretary CHENEY. The fiscal year 1990 end year strength for the Army National Guard and Army Reserve will be reduced by a total 19,704 from fiscal year 1989. This adjustment was made as part of the actions taken to achieve compliance with the 1990 appropriations made available by law. The end year strengths for the Reserve components of the Army will continue at fiscal year 1990 levels in 1991. These fiscal year 1991 budget reductions are unrelated to the base closure and realignment candidates package which was released on January 29, 1990. Strength adjust-

ments after fiscal year 1991 will be dependent in important part on principles guiding force structure development and the allocation of missions among the components of the Total Force, which are being reviewed as part of the ongoing Total Force Policy Study.

Senator GLENN. What plans do you have for the utilization in the Reserve and National Guard of the substantial number of experienced Active personnel who will be released from the Active force over the next few years?

Secretary CHENEY. The utilization of personnel released from the Active Army into the Reserve components will form an important part of our final strategy for revision of Army force structure and for developing the most appropriate force mix. These considerations will be especially important during the transition to a smaller Total Army. Our objective is to maintain the high quality in the force which we enjoy today. This involves not only individual excellence but also the proper mix of youth with experience and the ability to maintain this mix over time. Today, about one-third of those leaving the Active Army transition into the Guard and Reserve. Without Reserve billets for those released from the Active Army, this objective cannot be met and we risk the loss of a trained and youthful resource. These considerations will be important in the development of our plans.

PERSONNEL FORCE REDUCTION AUTHORITIES

Senator GLENN. Secretary Cheney, the 91,000 reduction in Active military end strength over the next 2 years is a 4.3 percent reduction from the fiscal year 1989 level. This reduction plus the substantial additional reductions that are envisioned for the next few years indicate to me that there will be considerable personnel turbulence as these drawdowns are made. Do you plan to propose any legislation that would help you to make these reductions so that these reductions would have a balanced effect on the officer and enlisted components of the force?

Secretary CHENEY. Yes. The Department will need substantial changes in the law to manage effectively the reduction in the size of the Armed Forces and to maintain the high quality of the Armed Forces. The Department plans to submit legislation to implement the personnel aspects of my July 1989 Defense Management Report. The Department also has submitted, or will submit separate legislative initiatives essential to effective management of the Department's civilian and military workforce. Two areas of immediate concern are statutory restrictions that inhibit effective reductions in the size of the military officer workforce and the inequity of providing separation pay for commissioned officers, but not similarly situated noncommissioned officers.

Since officer management is guided more by law than enlisted force management, we will need legislation that would modify certain restrictions involving the voluntary and involuntary retirement or discharge of commissioned officers. The Department submitted proposed legislation in July 1989 (summary attached). Legislation is required immediately to allow sufficient time for personnel managers to develop and announce the fiscal year 1991 reduction programs. Time permitting, such legislation would also be used in fiscal year 1990 to decrease the involuntary measures required.

An additional area of Departmental concern is the adequacy of current separation pay statutes. We are considering legislative alternatives that could alleviate the inequity associated with separation pay entitlements, while providing for appropriate use of involuntary separation in support of force management considerations unique to each Military Department.

DOD PROPOSED OFFICER AGENT LEGISLATION

SUMMARY

This legislation would significantly improve the Department of Defense's ability to shape the officer force prudently when officer reductions of 1 percent or more are directed in any Service. Except for the Regular Army officer reduction-in-force (RIF) authority, SECDEF may also authorize use of these authorities, in unusual circumstances, for any Service that incurs an officer reduction of at least 0.5 percent, if a DOD-wide 1 percent reduction is levied. The following authorities, if enacted, would be authorized in the year of the reduction and the following year, but the involuntary measures could not be used until October 1, 1990.

SECTION 1—CONTINUATION CURTAILMENT. Secretaries could curtail the period of continued service of any officer previously continued on active duty. (Effective 1 Oct 1990)

SECTION 2—SELECTIVE EARLY RETIREMENT. Secretaries could expand the pool of senior officers eligible for Selective Early Retirement Boards (SERBs) by including O-6s with at least 2 years-in-grade and O-5s passed over once. Limited to 30 percent of those considered. (Effective 1 Oct 1990)

Secretaries could also select regular officers in the grade of O-5 and below for retirement at their earliest retirement eligibility date (normally 20 years of service). This provision would be limited to officers who are within 2 years of retirement eligibility. Officers who are on a list recommended for promotion would be excluded. Limited to 30 percent of those considered. (Effective 1 Oct 1990)

Under current law, officers who are considered by SERBs may not be considered for another 5 years. This provision would be waived. (Effective 1 Oct 1990)

SECTIONS 3 and 4—VOLUNTARY RETIREMENT WAIVERS. Under current law, in addition to 20 years of active service, officers must have 3 years-in-grade and at least 10 years active commissioned service to voluntarily retire in their current grade. To encourage voluntary retirements, this bill would allow Secretaries to lower these requirements to 2 and 8 years, respectively.

SECTION 5—TEMPORARY ARMY REDUCTION-IN-FORCE AUTHORITY. This bill would also authorize the Secretary of the Army to involuntarily discharge Regular Army officers in grades below lieutenant colonel. This temporary authority would not be effective until October 1, 1990, and would expire on September 30, 1994.

SECTION 6—SEPARATION PAY FOR REGULAR OFFICERS. Secretaries could identify cohort groups of regular officers with 5-20 years of service for reduction (by grade, competitive category, year group, specialty, and/or other identifying factors, along with any other constraints). Eligible officers who volunteered to resign, subject to secretarial approval, would be authorized separation pay.

Senator GLENN. Do you need such legislation to help you to effect the reductions in fiscal years 1990 and 1991?

Secretary CHENEY. Yes, if we are to do it with maximum efficiency and effectiveness.

ACTIVE FORCE END STRENGTHS

Senator GLENN. Secretary Cheney, the active military end strengths of the services are being reduced by 91,000 over the next 2 years. Except for an 8,000 reduction in the Navy, the remaining 83,000 reduction is practically equally divided between the Army and Air Force.

The Army's reduction of 42,000 appears to be tied to a force structure reduction of two divisions in fiscal year 1991.

What force structure reductions do the 41,000 reduction in the Air Force track to?

Secretary CHENEY. From the end of fiscal year 1989 through fiscal year 1991, the Air Force will realize a reduction of about 41,000 end strength. Of this number, about 15,500 manpower spaces are tied directly to force structure reductions, about 15,000 are related to other programmatic reductions, and about 10,000 are associated with unit undermanning.

The 15,500 manpower spaces were reduced as a result of the following force structure changes: −31 B-52Gs, −7 SR-71s, −14 KC-135s, −23 FB-111s, −2 F-16s, −86 F-4s, +12 F-15s, +4 F-15Es, −86 AT-38s, −27 A-10s, −5 A-7s, +3 OV-10s, −20 F-5s, −6 RF-4s, −16 C-130s, +2 C-17s, −5 C-141s, −14 HH-3Es, +15 MH-60s, −3 UH-60s, −3 CH-3s, +8 MC-130Hs, +4 MH-53s, and −224 ground launched cruise missiles (GLCM).

The 15,000 manpower spaces were reduced as a result of the following program changes: medical war readiness (+1,300 spaces), communications and space activities (+700 spaces), accessions (−2,900 spaces), transients (−1,000 spaces), A-76 commercial activities cost comparisons (−3,300 spaces), data automation initiatives (−500 spaces), military to civilian conversions (−4,300 spaces), acquisition command restructure (−1,500 spaces), base closures (−2,000 spaces), DOD Inspector General command headquarters reduction (−900 spaces), officer reduction (−400 spaces), and miscellaneous programs (−200 spaces).

The remaining 10,000 manpower spaces were reduced in the form of unit undermanning. Eventually, these non-programmatic manpower reductions will be tied to future force structure/programmatic reductions (e.g., conventional forces in Europe troop reductions, additional base closure actions, and ongoing streamlining initiatives under the Defense Management Review program).

Senator GLENN. How much hollowness do these reductions cause? For example, I understand that the Air Force has issued manning guidance that establishes manning floors of 90 percent for remote or isolated units, 85 percent for overseas units,

and 80 percent for units in the United States. Is this correct, and what are the manning rates for the other services?

Secretary CHENEY. Programmed reductions for fiscal year 1990 and fiscal year 1991 account for 31,000 of the 41,000 manpower reductions reflected in the fiscal year 1991 President's budget and do not contribute to undermanning or "hollowness" since the workload or weapon system is eliminated at the same time. The remaining 10,000 non-programmatic manpower reductions represent the maximum amount of undermanning that units could experience. The primary reason why the Air Force has issued the manning guidance mentioned above that establishes manning floors for isolated, overseas, and CONUS units, is to manage the undermanning situation as efficiently as possible. To maintain maximum mission capability and minimize personnel turbulence and family hardships, the services must be as proactive as possible in managing the force structure drawdown and attendant personnel actions to include change of station moves, reenlistments, accessions, promotions, and retirements. The Air Force is doing just that.

The Air Force projects a manning rate of approximately 92 percent for the total force in both fiscal years. The Army projects a minimum of 90 percent manning throughout both fiscal years through programmed force structure reductions. The Navy does not project any undermanning in its fleet forces in fiscal year 1990 or fiscal year 1991 beyond that normally experienced on a day-to-day basis. Any extraordinary undermanning that is experienced will be in the shore establishment units in the CONUS. The Navy projects an overall manning rate of 91.5 percent in both fiscal years. The Marine Corps currently projects a manning rate of 90 percent for both fiscal years by implementing planned force structure the planned force structure reductions. As long as the services are allowed to make the planned force reductions in a timely and orderly fashion, no significant undermanning will be required to balance inventory with programmed manpower.

Senator GLENN. What is your assessment of these reductions on the combat efficiency and morale of our forces, especially if they are undermanned?

Secretary CHENEY. Every possible means available to the services are being used to manage these end strength reductions in the most effective and efficient manner possible. However, non-programmatic reductions always generate some degree of undermanning that reduces the unit's capability to execute its mission. That is why isolated and overseas units are given priority with respect to manning so that the impact on combat capability is minimized. When end strength reductions are legislated without also reducing the workload or weapon system that generates the need for that manpower, temporary undermanning is the only vehicle left to the Services to balance the accounts until some programmatic action can be taken to bring programmed manpower requirements in line with the legislated end strength provided by Congress.

With respect to impact on morale, especially in units that are temporarily undermanned, the extent to which morale is affected is directly proportional to perceptions of service members regarding the strength and visibility of our commitment to them. In keeping with the direction of the Deputy Secretary of Defense, all of the Services are implementing measures to ensure sufficient accessions to maintain the experience level of the enlisted force, to develop fair and visible involuntary separation policies, to keep promotions from stagnating, and to ensure the best performers are retained in the force. We do not expect morale to be affected to any significant degree as long as the Department of Defense is allowed sufficient time and management flexibility to effect the force structure reductions necessary to sustain a vigorous and ready force consistent with sound personnel policies.

Senator GLENN. What actions do you contemplate to bring about a better match of force structure and strength levels?

Secretary CHENEY. As indicated by the Secretary of Defense and the Chairman of the Joint Chiefs of Staff, we have no intention of ever returning to the "hollow force" that we experienced in the 1970s. Our Armed Forces will be smaller in the future, but they will have top-quality personnel and a well-integrated, highly capable force structure. Ensuring this outcome will be a top priority of the Department's leadership, and will be an overriding principle for the Department's planning, programming, and budgeting system.

QUESTION SUBMITTED BY SENATOR JOHN MCCAIN

MILITARY MANPOWER QUALITY

Senator MCCAIN. Following the Vietnam war, manpower quality was allowed to deteriorate to the point where we created a "hollow military." Without proper command attention to the quality and quantity requirements of the military service, I fear that we will slowly slip back toward this type of force. Knowing that the manpower accounts are "quick spend" accounts that become easy targets for budgeteers to cut in times of falling budgets, what assurance can you give me that manpower accounts and MWR accounts will not become victims of the "quick accounting solution?"

Secretary CHENEY. The Department of Defense will not return to the hollow Armed Forces of the 1970s. We will have a smaller force, but a highly capable force. The Department will not sacrifice the quality of the force to achieve fiscal objectives. Prudent management will enable the Department both to maintain the quality of the force and to reduce the overall cost of national defense to the taxpayers.

QUESTIONS SUBMITTED BY SENATOR SLADE GORTON

V-22

Senator GORTON. Can you assure members of the committee that the COEA you have initiated on the V-22 and possible alternatives will address the concerns expressed by last year's Appropriations Conference and expressed by the 27 Senators in their October 26, 1989 letter to you, and could the results of that study change your decision to terminate the program?

Secretary CHENEY. The Cost and Operational Effectiveness Analysis (COEA) of alternatives to the V-22, requested by the House Armed Services Committee report on the fiscal year 1990 Defense Authorization bill, has been modified to address all of the concerns expressed in the fiscal year 1990 Appropriations Conference Report.

Senator GORTON. You have stated that you thought we would complete R&D on V-22, but never buy any aircraft. If that is the situation, then why is there not any R&D funding for the program in the budget request? We have three aircraft flying and are at the threshold of exploring the real ability of tiltrotor—why are we not continuing the development work?

Secretary CHENEY. The Department never made a commitment to "complete R&D on V-22" as the question assumes, but rather proceeded as planned with obligation of fiscal year 1990 R&D funds.

QUESTIONS SUBMITTED BY SENATOR TRENT LOTT

SEALIFT

Senator LOTT. General Powell, in your prepared statement you addressed briefly the requirement for strategic mobility and for sealift. In your personal opinion, what are the most significant deficiencies in our current sealift capabilities?

General POWELL. Sealift along with airlift and prepositioning are the elements of our mobility triad. We seek the best balance of these elements to provide flexible response over the widest range of force deployment options.

Our sealift resources consist of: Government owned vessels—predominately ships in the Ready Reserve Force, the U.S.-flag fleet, the Effective U.S. Control Fleet, and allied commitments. The number of U.S.-flag ships in trade has been steadily declining and projections indicate this trend will continue. Additionally, the types of vessels in the U.S.-flag fleet are concurrently changing to designs that require special fixtures to transport unit equipment as well as modern facilities to offload their cargo. We have made significant progress in buying specialized equipment (SEA SHEDs and Flatracks) and must continue to support programs in place, especially funding for the Ready Reserve Force.

Senator LOTT. What are your concerns regarding our future sealift capability?

General POWELL. The trends in U.S. controlled sealift assets are alarming for the long term. We must address the decline in the U.S. Merchant Marine. The recent National Security Sealift Policy is the first step in addressing our sealift problems.

Senator LOTT. What would be your priorities for improving our sealift capability?

General POWELL. First, as I addressed earlier, we must support the Ready Reserve Force program. Second, implementation of the National Security Sealift Policy re-

quires a concerted effort by all the agencies involved in developing a course of action to ensure that sufficicnt military and civil maritime resources will be available to meet defense deployment and essential economic requirements.

Senator LOTT. Secretary Cheney, do you agree with General Powell's assessment that strategic mobility is an important military requirement?

Secretary CHENEY. Yes. The kinds of challenges we are likely to face in the 1990s, with the forces we are likely to have in the 1990s, will require that we give high priority to strategic mobility.

Senator LOTT. Do you believe that our current sealift capabilities are adequate to support our military commitments and our military forces?

Secretary CHENEY. The administration's defense budget for fiscal year 1991 provides the sealift capability that we need and can afford.

[Whereupon, at 2:18 p.m., the hearing was adjourned.]

DEPARTMENT OF DEFENSE AUTHORIZATION FOR APPROPRIATIONS FOR FISCAL YEAR 1991

TUESDAY, FEBRUARY 27, 1990

U.S. SENATE,
COMMITTEE ON ARMED SERVICES,
Washington, DC.

AMENDED DEFENSE AUTHORIZATION REQUEST FOR FISCAL YEAR 1991 AND THE FISCAL YEARS 1991-1995 FIVE-YEAR DEFENSE PLAN

The committee met, pursuant to notice, at 2:07 p.m., in room SR-253, Russell Senate Office Building, Senator Sam Nunn (chairman) presiding.

Committee members present: Senators Nunn, Exon, Levin, Dixon, Glenn, Warner, Thurmond, Cohen, McCain, Gorton, and Coats.

Committee staff members present: Andrew S. Effron, general counsel; Marie Fabrizio Dickinson, assistant chief clerk; Richard D. DeBobes, counsel; Madelyn R. Creedon, counsel; Daniel G. Sakura, research assistant; and Lucia M. Chavez, security control officer.

Professional staff members present: Robert E. Bayer, Robert G. Bell, John J. Hamre, William E. Hoehn, Jr., David S. Lyles, T. Kirk McConnell, Michael J. McCord, Frederick F.Y. Pang, and William H. Smith.

Minority staff members present: Patrick A. Tucker, minority staff director and counsel; Romie L. Brownlee, deputy staff director for the minority; Brian D. Dailey, Judith A. Freedman, George K. Johnson, Jr., Ronald P. Kelly, George W. Lauffer, John E. Mansfield, Durwood W. Ringo, Jr., Mark B. Robinson, and Ann Elise Sauer, professional staff members.

Staff assistants present: Barbara L. Braucht, Barbara Gallo, Cindy Pearson, and Kelli J. Pronovost.

Committee members' assistants present: Andrew W. Johnson, assistant to Senator Exon; Kenneth N. Luongo, assistant to Senator Levin; William J. Lynn, assistant to Senator Kennedy; Charles C. Smith, assistant to Senator Dixon; Phillip P. Upschulte and Milton D. Beach, assistants to Senator Glenn; Jefferson B. Seabright, assistant to Senator Wirth; Terence M. Lynch, assistant to Senator Shelby; James M. Bodner, assistant to Senator Cohen; Patrick F. McCartan, assistant to Senator Wilson; Anthony H. Cordesman, assistant to Senator McCain; Robert M. Soofer, assistant to Senator Gorton; Charles G. Pearcy, assistant to Senator Lott; and Eric H. Thoemmes, assistant to Senator Coats.

OPENING STATEMENT OF SENATOR SAM NUNN, CHAIRMAN

Chairman NUNN. The committee will come to order. This afternoon the Armed Services Committee meets to continue our hearings on the implications of the recent changes in the Soviet Union and Eastern Europe for our national security policy, our military strategy, and ultimately, our defense budget.

Over the past month the committee has received testimony on the military, political, and economic consequences of these changes from representatives of our intelligence community, from private experts, from NATO parliamentarians, from former Secretaries of Defense, and from former Chairmen of the Joint Chiefs of Staff. Virtually all of the witnesses have testified that the world has changed, probably in permanent ways. We have all seen these events and these changes unfold on our television screens almost every night—in the Soviet Union, in Eastern Europe, and most recently, in Central America. Our challenge is to determine if the fiscal year 1991 defense budget reflects the realities and the full dimension of these changes in the threat, the political situation in Europe, and the fiscal situation here at home.

To make decisions on this year's defense budget, we have to have a clear picture of where we are going over the next 5 years. The rapid and dramatic pace of change over the past year has made long-range planning very difficult, and we all know that. I know that Secretary Cheney, the service Chiefs, the Secretaries of the services, and the other senior leadership in the Defense Department are in the process of addressing these issues right now. But the Defense Department is going to have to fill in some of the blanks in this year's budget and the Five-Year Defense Plan before Congress can act on the fiscal year 1991 defense budget.

Senator Warner and I are not going to be able to go on the floor and say, "folks, we know this defense budget is not really relevant to what is happening in the world, but it has moved too fast for us and we want you to give us X number of dollars, even though the threat hasn't been updated and the strategy hasn't been updated." It won't wash on the floor of the Senate. We are going to have to have a more definitive picture from the Department of Defense before we can defend the budget on the floor, which we certainly will be doing.

For example, we need to know how the Department plans to achieve all of the $167 billion in savings between last year's Five-Year Defense Plan and the current Five-Year Defense Plan. So far the Department has shown us how we would achieve about $70 billion of these savings. This leaves about $100 billion that is yet undetermined, as far as we have been informed. We need to know how the force structure of each of the military services will change over the next 5 years and what the balance between Active and Reserve forces will be.

Secretary Cheney had told us that he had ordered a detailed review of five major defense programs, which I think is good: ATA, ATF, C–17, B–2, and SDI. Each of these programs will cost in excess of $30 billion to complete and some much more than that. We need to know the outcome of these program reviews before we

act on the fiscal year 1991 request for these programs, if that is possible, and we certainly hope it is.

Today we meet to receive testimony from the Secretaries of the military departments. I hope that we can start to fill in some of these blanks in the fiscal year 1991 budget and the Five-Year Defense Plan.

This afternoon, we welcome to the committee the Secretary of the Army, Michael Stone; the Secretary of the Navy, Larry Garrett; and the Secretary of the Air Force, Don Rice. The committee appreciates the talent and dedication that all of you bring to the Department of Defense. Frankly, I think we have an outstanding group of Secretaries, and I am pleased that all of you have been willing to serve. We welcome you here today. Before we begin, let me ask Senator Warner if he has any opening remarks.

Senator WARNER. Thank you, Mr. Chairman. I certainly join you in recognizing that there are three outstanding public servants who have stepped up to the call of the President to take on some tough tasks.

Now you are faced with a challenge of scaling back the military spending of this country. I want those initiatives to come from the President and from the Secretary of Defense, based on recommendations from you three gentlemen. I say this because Congress, in its infinite wisdom, simply does not have the tools or the ability to make some of the tough decisions that you have to make in a well-informed manner. I have said before to the Secretary, and indeed to the President, that now is the time to go back and reexamine the roles and missions.

When we established the Department of Defense and made the civilian team the stronger in terms of authority, that is because we recognized there would be times when you would have to make the tough political decisions, decisions which men and women wearing the uniform simply cannot make, for a variety of reasons. The hour has come.

Congress will not, in my judgment, tolerate just simply trimming each of the military departments a little here or a little there, about the same percentage-wise. Ten percent across the board is not going to do it. The cuts have to be, as the chairman has said repeatedly, and again today, predicated on a strategy as best the Secretary of Defense can devise that strategy given the uncertain world we face today and are likely to face tomorrow.

Paramount among those considerations, of course, is the welfare of the men and women currently in uniform. This is an all volunteer service. It started in the latter days of Vietnam, when it was the judgment of the President and the Secretary of Defense that the draft could no longer be utilized. It has worked. It has worked far better than any expectation or prediction at the time it was put in. This has been for a variety of reasons, and I think Congress has been a partner in providing adequate compensation and recognition of the needs of the men and women in uniform.

Now, I say to you, as you look at the personnel cuts, if there is a crunch, if there is a need for legislation to help these people who have volunteered, volunteered to remain on active duty for extended periods, many for a career, then come forward to Congress

and present it to us. This is one Senator, and I am certain there are many others, who will look at it very conscientiously.

There is an old maxim that Rudyard Kipling once wrote about the British tommy at the turn of the century: "tommy this and tommy that; when the war is over, chuck him out, the bruce; but when the guns begin to shoot, 'tis the hero of his country." Well, we don't know whether those guns will begin to shoot again. I hope not. But memories are long. If we botch the job now in scaling back military spending, can we depend on an all volunteer force to come to our rescue if the facts and the world situation demand augmentation of the Armed Forces?

It's a tough assignment, gentlemen, but I think you are up to solving it. Thank you, Mr. Chairman.

Chairman NUNN. Thank you very much, Senator Warner. Senator Dixon and Senator Thurmond have submitted prepared statements that they wish to be made a part of the hearing record.

[The prepared statements of Senator Dixon and Senator Thurmond follow:]

PREPARED STATEMENT OF SENATOR ALAN DIXON

Mr. Chairman, just a few weeks ago, Dick Cheney, Secretary of Defense and General Colin Powell, Chairman of the Joint Chiefs of Staff, appeared before this committee to outline the President's 1991 fiscal year defense budget. Today we will hear from the individual service Secretaries as to their opinions on the effect this proposed budget will have on each individual service.

During the last few weeks, testimony before this committee has indicated clearly that the Warsaw Pact threat to NATO security is no longer of the same magnitude it has been for far too long. Yet we still face the challenge of what we should be doing to protect our overall security interests in this world in transition. The prospect of creating a more stable and secure world is the greatest opportunity afforded by the recent warming in U.S.-Soviet relations and the striking—but welcome—events in Eastern Europe.

We are at the beginning of a major debate on the future of U.S. defense policy, not at the end. In addition to focusing on the impact of the changes in Europe on the U.S. and allied security interests, this new debate provides an opportunity to address critical national security issues outside the U.S.-Soviet framework that have too long been ignored.

We are a superpower, and we must be concerned about maintaining peace and stability in the world. Therefore, we will not suddenly stop needing sufficient Armed Forces. As I have reviewed the individual services' defense budgets, I see this administration once again stressing strategic programs over conventional programs. I see the Army terminating the AH–64 Apache helicopter because the Army wants to buy a new light helicopter (LHX). Yet this program is still on the drawing boards. Today we have the Apache, which is only in its 6th year of production and recognized world wide as the best, being cut off before we have finished filling out those National Guard and Reserve units that need this system. The Army still can't explain to my satisfaction what it wants to do with the LHX. The Army is cutting National Guard and Reserve units, which are less expensive to maintain. Army planners are terminating the M–1 tank because they want to buy a new one! This is not the time to spend monies on a new tank. We should simply be product-improving the best tank in the world!

As we draw down our forces in Europe and elsewhere, we have the administration transferring money from the fast sealift program and the C–17program. We see this administration taking money from the National Guard and Reserve to fund SDI and other strategic programs.

Mr. Chairman, we must be concerned with the Persian Gulf, the Pacific rim, South and Central America, and other areas of the world. This means we must have strong, deployable conventional forces. We do not need two Marine Corps; we need a strong Army, with some light forces, but we don't need a light Army with some heavy forces. We need to be able to project forces around the world, and to do this we need a strong Navy and Marine Corps. The Army needs to have some airborne units and one or two light divisions, but we don't need an Army too light to fight!

I am concerned that this budget does not have one Army overseas base on the list to be closed when we are putting two battleships back into mothballs; not one—not one—Navy home port was recommended for closing. Secretary Garrett, we are not going to have a 600-hundred ship Navy! Let's close down some of the home ports.

Secretary Rice, the Air Force wants an advanced tactical fighter plane. Congress has indicated that we want to have a fighter plane that both the Navy and Air Force can use. The time has come—given very tight defense budgets—that all the services must, I repeat, must, have common weapons systems. I hope you and Secretary Garrett stand firm on this issue, because if you don't, then both the Air Force and the Navy will have a very hard time convincing this Senator and others to authorize two different fighter planes.

It also makes no sense to the American people, and to me, why the Army is going out for a market survey to replace the M551 Sheridan when the Marine Corps just completed a market survey for an improved gun system on their light assault vehicle! This project just doesn't add up—especially when the Army only needs less than 200. This does not make sense. We don't have the funds! May I suggest to Secretary Stone that the Army look at the market survey the Marine Corps has just completed. And could I suggest to you, Secretary Garrett, that just possibly if the Marines could work out the type of gun system that the Army needs, you both could save the United States taxpayers a lot of money? Wouldn't these approaches make more sense—all the way around?

Thank you, Mr. Chairman.

PREPARED STATEMENT OF SENATOR STROM THURMOND

Thank your Mr. Chairman: I join you in welcoming Secretaries Stone, Garrett, and Rice to this hearing. This is the first appearance by the three Secretaries before the Armed Services Committee since their confirmation, and I want to take this opportunity to congratulate them on the superb job they are doing.

Mr. Chairman, the last 6 months have brought about changes in the world that none of us could have anticipated as we began the confirmation process last year. I expect that, had we asked the nominees what they anticipated their greatest challenges would be during their tenure in office, they would not have answered that it would be dealing with a diminished threat.

As we enter the last decade of this century, each of the services will have to undergo fundamental changes and review what their mission will be in view of the changing threat. Some people want us to believe that we no longer face a threat—I disagree. I believe our Nation now faces a period of greater danger because of the uncertainty that exists throughout the world. We can no longer focus on one threat, but must be prepared to meet a variety of challenges such as terrorism, the growing military power of the Third World countries, and the continued uncertainty of what will happen in the Soviet Union.

I applaud the cautious approach that is being advocated by the administration, and challenge each of our witnesses to resist the pressure to make hasty decisions on force reductions and changes to the structure of the services. No one anticipated the changes that have occurred and no one can tell what will happen in the next 6 months. In this era of uncertainty, it is in our best interests to project a positive image and deal from a position of strength.

Thank you, Mr. Chairman.

Chairman NUNN. I believe this afternoon we will start with Secretary Stone for his opening statement.

STATEMENT OF HON. MICHAEL P.W. STONE, SECRETARY OF THE ARMY

Mr. STONE. Thank you, Mr. Chairman. I have submitted a statement for the record and, with your concurrence, I would like to make a few opening remarks.

Chairman NUNN. Without objection, your entire statement will be made a part of the record.

Mr. STONE. Thank you. I want to talk to you, Mr. Chairman and Senators, about the future of the U.S. Army, the problems that it faces, and the priorities that I intend to assign as we address those

problems. As I make these remarks, I hope I will address a few of the concerns that you raised in your opening statement and maybe fill in a couple of the gaps that you mentioned.

Our Army has been an enduring part of our Nation for well over 200 years. Its being is provided for in Article I of the Constitution, and its origins and initial shape were crafted with infinite care by our first two Secretaries of War, Henry Knox and Timothy Pickering. Its size has ebbed and flowed; but rarely has it been asked to recede as rapidly as it is being asked to do today, and never before, as Senator Warner has just remarked, with an all volunteer army.

The responsibility that I have to you and to Congress, which is charged to provide for the Army in the same Article I of the Constitution, is to give you the best advice that I can, so that you can discharge your duties in the wisest manner.

Both our wisdom and our emotions are today being challenged by profound influences. For 40 years the United States has maintained an unflinching posture in the face of what has been an implacable political system, a system that has consistently advocated the overthrow of the principles that we cherish and that are reflected in our Constitution. That adversarial political system, conceived as a political philosophy that began to take place over 100 years ago after our Revolution and then underwent its own revolution in the 1917 period and again in the 1930s, is now discredited.

The steadfast opposition of the United States to the forceful and illegitimate expansion of that system has been a magnificent success, but one curious consequence is that there are now cries for the United States to dismember a principal instrument of that success, the U.S. Army. Such pressures are the first of two major influences on Army fortunes today.

A second factor affecting the Army is, of course, the renewed effort in our country to address the need for greater financial discipline in the exercise of our political and military objectives. It seems to me proper that we, as a nation, should become more disciplined in these functions. Furthermore, it also seems proper that the Army must share in the responsibility to achieve the fiscal objectives that are articulated by the people of the United States and their representatives in Congress.

However, while sharing that responsibility, it should not be my duty as Secretary of the Army to abdicate another constitutional responsibility, the Army's charge to provide for the common defense. It is my duty to manage the provision of that common defense not only in a fiscally responsible way, but also in a way that reflects, first, our position as a world leader, and, second, our capability to bring to bear overwhelming strength and deterrence should those national instruments be required.

Having noted those two influences, I will now briefly look more closely at the problems and the priorities. First, the Army must confront the pressure it is receiving, as I have said, to change its structure too rapidly, to undergo too rapid a change in structural tempo. If structural changes are done ineptly in the next few years, the Army and the Nation can easily destroy what has been so superbly crafted by so many over the past 15 years.

Second, we must guard against corruption of the human quality that has been built into that force structure during the same

period of time. That corruption would involve a betrayal of the trust that has led many young people of our Nation to a commitment of their professional lives in the Army.

Third, a lack of funding stability is a management problem that has been recognized publicly by many, including you, Mr. Chairman. Fiscal baselines that shift from year to year and even from month to month make responsible management an almost impossible task.

To address these problems the Army needed to develop plans—and I will soon get more specific—and budgets that posture the Army to adhere to the following seven priorities:

1. It must maintain a proper balance of resource allocation between intrinsic size, readiness, and modernization;

2. Its physical asset base must be managed in a way that preserves the quality of the assets themselves and prolongs their useful and efficient life. We cannot allow our backlog of maintenance repair to continue to increase. We cannot allow equipment to go without overhaul;

3. It must utilize a management approach that severs a rigid adherence to the past and examines new solutions for the future. We must be willing to reconsider old decisions. An example of that in the Army today is the current consideration being given to the utilization of an armored gun system, something that we presently do not have in our inventory. The fact that we have rejected it in the past should mean that we should not be unwilling to consider it in the future;

4. We must maintain U.S. leadership and innovation in technology. The modernization of the Army, which must be ongoing, must have those characteristics. I stipulate that there must be four key systems in the Army's modernization program: (1) we must continue our program of air defense; (2) we must continue our research into armored systems; (3) we must have an infantry-carried antitank weapon; and, (4) we need aircraft replacement;

5. We must cherish and institutionalize those same high personnel standards that I have talked about and that have been established in recent years, including the infrastructure required in support of those standards. We have 764,000 people in the Active force of the Army today; 390,000 of those are young enlisted soldiers in their first or second enlistments; about 100,000 of them are officers; 265,000 are non-commissioned officers in the grades of E–4 to E–9—mostly E–5 to E–9. It is this essential component of the Army to which we must give special care because it is they who are most vulnerable in the sense that they have committed their lives, in most cases, to a professional career in the Army;

6. We must preserve an essential mass in our Army. Mere size is not a proper measure; but there are some things that no military force can achieve without depth, without breadth, and without a variety of skills and what, in sports terms, would be called a "strong bench."

We are going to make radical changes in our Army.

One out of every six persons in the Army today, in the Active component of the Army, is going to come out of the Army in the next 4 years; we are going to reduce by five divisions; we will take 6 to 12 Army research labs and combine their functions, not to

lower the profile of research and development, but to try to make it more efficient; we will be closing two depots; we will be closing seven ammunition plants out of the 17 that we currently have in operation today. So the structural change in the Army is going to be considerable; and

7. We must develop and hone those management skills that are required and that sound so simple, but are intrinsically difficult, such as inventory control and financial discipline, so that they are maintained to a high and proficient standard.

Secretary Cheney and Secretary Atwood have already announced a management initiative in the Department of Defense to achieve a savings between now and 1994 of $39 billion in the Department of Defense. The Army's share of that is about $11 billion. We intend to obtain that benefit.

In conclusion, if we can establish and maintain the priorities that I have just stated, the Army can continue to be the first class, preeminent institution that it is today. I thank you.

[The statement of Mr. Stone follows:]

STATEMENT BY THE
HONORABLE MICHAEL P.W. STONE
SECRETARY OF THE ARMY
FISCAL YEAR 1991
DEPARTMENT OF THE ARMY
BUDGET OVERVIEW

Mr. Chairman and Members of the Committee:

It is a pleasure for me to appear before the Committee today to report on the state of the United States Army in 1990 and to outline Army priorities for the coming years. On this, the threshold of a new decade, I am proud to inform you that we enter these uncertain and exciting times with a trained and ready Army, the most capable peacetime force in our history.

The Army's participation in Operation Just Cause, the largest, most complex contingency deployment and employment of United States forces since World War II, was an unambiguous demonstration not only of substantial improvements in joint warfighting and of the superb capabilities of our contingency and special operations forces, but also of the validity of six fundamental imperatives that have guided, and will continue to guide, the development of the Army for the future--quality soldiers and civilians, forward-looking warfighting doctrine, appropriate size and mix of forces, tough and realistic training, necessary modernization, and competent leaders.

While the operations in Panama are foremost in our minds, we must not forget that during the past year our Army successfully accomplished many other missions. Some examples include the maintenance of our forward-deployed forces in Europe and Korea, which continued to demonstrate support for our NATO and Asian allies. The implementation of the Intermediate-range Nuclear Force treaty continued with the destruction of Pershing missiles at Army supervised sites and the participation of Army personnel in monitoring Soviet compliance. The Army continued support to United Nations peacekeeping missions in the Middle East as well as to Joint Task Force Middle East's operations to protect shipping in the Persian Gulf. Army support also continued for a broad range of security assistance and nation building programs in over 130 countries.

During 1989 the Army exercised capabilities that spanned the range of roles and missions on the domestic front. Our soldiers support disaster relief efforts in the wake of Hurricane Hugo, the San Francisco earthquake, the Alaskan oil spill, and numerous forest fires in the western United States...Additionally there was a significant increase in Army support for federal drug interdiction efforts, with increased support to federal, state, and local law enforcement agencies, as well as to other governments, and the establishment of a major joint service headquarters at Fort Bliss, Texas.

The success of these operational missions and new management initiatives are testimony to the dedication and commitment of our soldiers and civilians. The Army is well positioned to face the challenges of the new decade.

THE INTERNATIONAL SECURITY ENVIRONMENT

Our strategy is based on the tenets of forward-defense, coalition warfare, and flexible response. It is forward-deployed, globally oriented, and focused on the NATO Alliance. The question we now face is whether our Army is properly structured and equipped to meet the emerging strategic requirements of the 1990s and beyond.

As we enter the 1990s, our Nation faces a significantly more complex and varied security environment than at any time in our recent history. This environment must frame our defense requirements for this new decade and beyond. The world has become multipolar and thus less subject to superpower influence. The world economy is becoming more integrated with the development of new centers of influence. Allies are becoming more assertive in pursing their interests. The turbulent developments of the past year give us grounds for cautious optimism as well as cause for increased concern.

Within the Soviet Union, President Gorbachev's programs of perestroika and glasnost suggest that Soviet emphasis on massive military power, centralization, confrontation abroad, and repression at home is changing, at least temporarily. We encourage these positive developments, but we also recognize that their stated intentions are in a rudimentary stage of implementation. Despite unilateral cuts, the Soviets have never talked of reducing their readiness of their forces and their modernization effort continues. Indeed, the new emphasis appears to be on quality as the Soviet Union implements President Gorbachev's announced force withdrawal and restructuring programs. There are many encouraging signs of a reduction of the Soviet military threat worldwide, but it will take time for the final results to become apparent. Meanwhile, United States military posture must be designed to meet capabilities, not stated intentions.

A second area of major concern is the increasing instability in Eastern Europe and within the Soviet Union itself. Recent events in Poland, Hungary, Romania, East Germany, Czechoslovakia, and Bulgaria clearly demonstrate the volatile nature of events within the Warsaw Pact. And within the Soviet Union itself, growing nationalism and ethnic unrest further complicate their situation and contribute to uncertainty and instability.

Developments in the Third World, where conflict is all too frequent, often threaten United States security interests. The military forces of many of these countries are now equipped with modern, lethal weapons systems. Economic and domestic problems in these countries provide the background for increasing instability and fertile ground for insurgency. In light of the proliferation of modern weapons in the developing world, this potential for increased stability and conflict poses a significant threat to our national security.

In an era of decreasing superpower tensions, international terrorism has emerged as a primary threat to United States policy, citizens, and the military. Not constrained by political frontiers, and aided by relatively easy access to arms and munitions, the international terrorist can strike across the globe virtually at will. Terrorism often becomes the prime weapon of the weak against the strong.

The continuing flow of illegal drugs into the United States and the demand for such drugs in our society have created an unprecedented and perplexing threat to our national security. Compounding this major threat is the indication that terrorist groups are becoming more involved in narcotics trafficking because it offers lucrative sources of revenue and a network for obtaining sophisticated arms and explosives. As the federal campaign against drugs intensifies, the potential threat to American lives and vital interests will increase.

The vital interests of the United States are increasingly linked with those of our allies and other friendly nations. Our coalition strategy, working in cooperation with allies and friends to protect our mutual interests, has produced an unprecedented period of peace and stability in Europe and Northeast Asia. The evolving international environment is, however, making alliance relations more complex, with several close allies emerging as leading economic powers in their own right. Changing political and economic conditions will affect allied security arrangements, and there is potential for an evolution in the sharing of defense burdens and risks.

There are also certain domestic realities which have substantial impact on the security environment. As a Nation, we face numerous domestic problems which call for the commitment of increasing amounts of our already limited national resources. This, coupled with a growing sense of euphoria over events in the Soviet Union and Eastern Europe, has created a climate where pressure for cuts in the defense budget is growing.

THE STRATEGIC ROLE OF THE ARMY

The increasingly complex international security environment and the uncertainties of the future demand a national military strategy which is multi-dimensional and oriented on defending our national interests wherever and whenever they are challenged. The Army is an indispensable component of this military strategy. As the first echelon of strategic deterrence, the Army provides sustained land combat power to defend the vital interests of our Nation and to protect the values on which this Nation was founded. The Army fulfills essential strategic roles. Army forward-deployed forces stand ready to respond immediately in critical areas of the world, contingency forces provide forced-entry capabilities for insertion into threatened areas, and reinforcing forces are available for maintaining sustained land combat. In addition, Army short-range nuclear forces provide an essential link between conventional forces and intercontinental nuclear forces. Finally, the Army provides regional peacekeeping forces, security assistance to allies and friends, and support to civil authorities. All of these critical Army strategic roles have been, and will continue to be, essential to the defense of the United States and the protection of our vital interests worldwide.

SHAPING THE STRATEGIC ARMY

An analysis of the trends in the international environment and the strategic roles the Army would be called upon to fulfill in the 1990s has made it clear that the Army should be restructured to meet the complex and uncertain world of the future. The Army will be smaller, but it must also be expansible to meet contingencies. Although it may have fewer

forces forward-deployed, it must have the ability to rapidly respond to all areas of vital interest to our Nation. Finally, it must be as capable as today's Army in fulfilling its strategic roles.

The Army of the future must be a balanced force, it must be modernized, trained, and ready to respond on short notice as required by our national military strategy. The Army must be shaped, not by short term, narrow interests, but rather by a strategic vision of the future. We must ensure that deterrence, stability, and ongoing arms control negotiations are not undermined by premature or excessive reductions in forces or capabilities. The wide array of potential threats to the vital interests of the United States requires an Army that is versatile, deployable, and lethal. The requirements presented in the 1991 budget reflect only the first step in the evolutionary process of shaping the strategic Army of the 1990s and beyond.

A quality force is paramount to meeting the strategic challenges of the future with a smaller Army. Quality people have been the key to our recent successes and these experiences have strengthened our conviction that we must continue to attract and retain the best educated, motivated, and ambitious young men and women our Nation has to offer. We must provide our soldiers, civilians, and their families with the kind of environment that stimulates their professional and personal growth. Quality people demonstrate the initiative, competence, and spirit necessary for a dynamic, flexible force. Quality soldiers and civilians, led by competent, confident leaders, continue to be the highest priority for the Army. More than any other single characteristic, the quality of the people will determine the versatility of the future Army.

Sustaining the readiness of the Army through this time of transition is essential. Tough, meaningful, and realistic training will continue to be the cornerstone of readiness for the Army. In view of the rapidly changing international environment, the precise time, location, and nature of the threat will always be uncertain. The Army must be able to respond to these contingencies without the need for extensive delays for retraining or mobilization. This versatility demands intensive, realistic training.

The worldwide nature of United States' interests and our national strategy will require an Army that is deployable. Our deployability needs can best be achieved through a combination of forward deployed forces and contingency and reinforcing forces based in the United States -- forces that are structured and equipped for easy deployability. It is apparent that we cannot count on having forces forward-deployed in every crisis area. Accordingly, we must invest wisely in strategic sea and air lift -- elements that are essential to our deployability and the preservation of our Nation's vital interests.

If the Army is to sustain a trained and ready force with the lethality necessary to meet strategic requirements, we must continue to modernize. Lethality is the assured capability to defeat an opponent, winning as quickly as possible to preserve our most valued asset - the lives of our soldiers. Maintaining lethality requires modernization, a continuous process which reflects our strategy, doctrine, technological advantages, and overarching commitment to providing our soldiers with the best equipment possible. We recognize that resources are limited, but we also know that our modernization strategy must support future wartime requirements and threat capabilities as well as fiscal realities. Modernization must capitalize on our advantages and strengths while exploiting the vulnerabilities and weaknesses of our potential adversaries. To develop our future capabilities

on time, we will continue to emphasize aggressive research and development in key technologies that will provide the greatest increase in warfighting capability for each dollar spent. We must also be careful to protect and nurture the technological base and systems tha: are key to future modernization.

MANAGEMENT INITIATIVES

Throughout this process the Army has, and will continue, to review and improve Army management to ensure efficiency and effectiveness. Several years ago the Army began implementing the recommendations of the Packard Commission. Thus the Army was well poised to improve existing management practices in response to the recent Defense Management Review. The Army Management Review focused on three key elements: streamlining acquisition management, developing a corps of acquisition specialists, and introducing a series of new management initiatives.

In 1987 the Army, responding to recommendations from the Packard Commission, streamlined acquisition management by creating a three-tier reporting chain with project managers reporting through the program executive officer to the Army Acquisition Executive. In addition, as a result of the Army Management Review, the project managers and program executive officers will be resourced directly from the Department of the Army, rather than through other commands.

The Army Acquisition Corps is the Army's program to develop a dedicated corps of military and civilian specialists. When fully implemented, this corps will consist of approximately 3,000 officers and 1,300 civilians who will fill designated acquisition positions to guide the development and fielding of new systems. Centralized management will integrate education, experience, selection, and assignment processes to ensure that both military and civilian acquisition specialists are trained and certified, and developed as the acquisition leaders of the future.

The Army is also considering various management initiatives to reduce costs. Over 45 initiatives to improve efficiency and effectiveness while reducing costs are being considered, with many approved for implementation. These include streamlining and consolidating Army laboratories, improvements in logistics systems, streamlining contract management, and reducing supply system costs. Most importantly, this review is not a one-time effort, but rather a continuing process which will serve us well in the coming years.

The initiatives of the Army Management Review are not the only management improvement projects designed to sustain and support the Army of the 1990s. Other programs of note include environmental enhancement and compliance, Army Communities of Excellence, base realignments and closures, chemical demilitarization, civilian personnel management improvements, and Total Quality Management.

During 1989 the Army took significant steps to ensure compliance with all federal, state, and local environmental laws and to adhere to host nation laws and status of forces agreements overseas. Environmental awareness is being integrated into systems development, production, logistics management, acquisition operations, and all other functional areas. In addition, the Army has made excellent progress in cleaning up

contamination from past disposal activities. Over 7,000 defense sites, formerly owned by the military services, have been identified thus far for investigation and cleanup, if appropriate. The Army recognizes its obligation to act as the steward of the natural resources within its control.

The Army's ability to accomplish its mission depends upon the performance of its people, and Army communities are vital forces which shape individual performance. The Army Communities of Excellence (ACOE) program is based on the principle that communities best support people by combining excellent facilities with excellent services. While some resources are necessary to improve stark, aging, or inadequate facilities, excellence in service often requires only committed leadership. The results of this program are apparent in the vastly improved quality of life, improved recruiting and retention, increased productivity and performance, and increased readiness of our force.

The Army has begun implementing the decisions of the 1988 Base Realignment and Closure Commission. The goals of Army planning are to ensure that maximum economies and efficiencies are achieved with minimal disruption to the Army's missions. Project management planning, environmental assessments, manpower requirements, and programming and budgeting are required to execute these actions. The process is dynamic, and lessons learned from this will serve us well as we transition to a smaller Army in the 1990s with further base closings and realignments. The resulting base structure will be smaller but will retain flexibility for the future.

A fourth major initiative has been in the area of chemical demilitarization. Destruction of our obsolete unitary chemical stocks will begin at Johnston Atoll in 1990 during an operational verification of the new chemical agent disposal system. After verification, facilities will be constructed, and the remaining unitary stockpile will be destroyed at eight storage locations. This project will save millions of dollars in storage and maintenance costs. Concurrently, the Army is planning for the accelerated withdrawals of the unitary chemical munitions now forward-deployed in Germany.

Because the quality of the civilian work force is a critical supplement to the quality of its soldiers, the Army has begun a Civilian Personnel Modernization Project to address those factors critical for the retention of a high quality civilian force. Among those factors are professional development, effective leadership, competitive pay and benefits, and recognition for a job well done. The goal of this long-term, continuous program is to enhance the readiness of the Army through a modernized, flexible civilian personnel system.

Finally, the Army is firmly committed to a philosophy of organized, continuous improvement which involves everyone in the Department working together in an integrated effort. Our philosophy of Total Quality Management integrates fundamental management techniques, existing improvement efforts, and technical tools into a disciplined approach focused on continuous process improvement. As we move forward into the 1990s, Total Quality Management will enable us to fully tap the potential of our people and technology to produce significant improvements in quality, productivity, and efficiency.

CHALLENGES OF THE FUTURE

We have a clear vision of what the future demands. We know the strategic roles we must execute, and we understand the qualities the Army must have in the next century. As we chart a course to ensure that we can meet our responsibilities, however, we confront a series of challenges that must be overcome.

First, we face a challenge in maintaining a quality force. As the Army is restructured over the next five years, it will become even more important that we recruit and retain the cream of American youth. A smaller Army, equipped with more modern weapons, and facing a more complex international threat , will demand increasing versatility and initiative from each soldier. Additionally, since civilians comprise nearly one-fourth of Army strength and perform critical logistical, research and development, and base operations functions, it is essential that we attract and retain the best. There is no substitute for quality.

Next we face a challenge in maintaining necessary modernization within constrained resources. Our modernization strategy is based on our analysis of threat capabilities and future wartime requirements. We will reduce or cancel those modernization programs which are useful but not required by our strategic missions in the years ahead. We will continue those programs which provide essential capabilities and we will maintain an adequate investment in promising technologies and in our industrial base. We are also challenged to ensure that, through our acquisition program, we impose appropriate procurement criteria to get the best value from our resources. While the pressure will be great to make substantial cuts in the budget, we cannot sacrifice our future warfighting capabilities to budgetary expediency.

The third major challenge is to shape Army force structure to meet the requirements of our national strategy. The 1991 budget is not an end state but merely a step in the evolution of the Army of the future. While the dramatic events in the Soviet Union and Eastern Europe have created an atmosphere of goodwill and reduced tensions, we must not forget the current capabilities of our potential enemies and worldwide instability. We must guard against untimely and unilateral force cuts that would undermine arms control negotiations and seriously jeopardize the defense of our Nation and our allies. The Army of 1995 will be significantly smaller, but it will also be a balanced force that is versatile, deployable, and lethal.

Finally, we face a challenge in maintaining the viability of our national strategy in the midst of our Nation's fiscal realities. If we are not careful, we will create a new and insidious kind of deficit — a security deficit that, if not brought under control, will impose unacceptable risk to our Nation in the years ahead.

CONCLUSION

Throughout our Nation's history the Army has been shaped and molded to meet the changing requirements of national strategy. Through these next years we will continue to shape the Army to meet the needs of the Nation. We must maintain an Army with capabilities spanning a broad continuum and with the flexibility to respond to rapid changes.

I am proud of the accomplishments of the Army. Our Army has proven itself truly trained and ready as it has answered the call to duty throughout the world, from Germany to Korea and from Panama to the fire-scorched mountains of our own western states. We are ready to face the challenges of the future.

Chairman NUNN. Thank you, Secretary Stone. Secretary Garrett.

STATEMENT OF HON. H. LAWRENCE GARRETT III, SECRETARY OF THE NAVY

Mr. GARRETT. Thank you, Mr. Chairman, members of the committee, I also look forward to the opportunity to review with you the posture of the Navy-Marine Corps team and to discuss with you the Department of the Navy budget for fiscal year 1991. I have also submitted a formal statement and ask that it be entered into the record.

Chairman NUNN. Without objection, your entire statement will be made a part of the record.

Mr. GARRETT. Thank you. As you point out, Mr. Chairman, dramatic changes in the world order are unfolding, even as we speak, that are likely to alter very fundamentally the basic tenets of U.S. defense planning. While many of these changes give us cause for great hope, I think it is fair to say that others give us equal cause for concern. For instance, there has been no increase in regional stability to accompany the positive trend in super power relations; a simple fact, I think, illustrated by events in Asia, Central America, and by continued conflict in the Middle East.

Complicating this picture is the rapid proliferation of sophisticated weapons to Third World countries, many with regimes that are hostile to our interests as a nation. While we welcome the new views expressed by the Soviet leaders, Soviet naval capabilities are clearly still formidable and, in some areas, are expanding. Indeed, progress toward a more democratic Eastern Europe with its potential for lower overall levels of armament is promising, but the course is clearly uncharted and success is far from certain. Some aspects of the future, however, Mr. Chairman, I believe are more certain.

First, the United States will remain, unalterably, a maritime nation, dependent upon the seas to provide the avenues for our international business, for our links to allies overseas, and to provide a haven for a large portion of our strategic deterrent.

Second, I believe threats to world peace will continue to evolve and show themselves throughout the world. To support our national security objectives, the Navy and Marine Corps must continue on station, maintaining a global presence with forces that can be tailored quickly to political, military, and/or geographical circumstances.

The Department of the Navy's challenge, like my sister services, is, within fiscal constraints, to provide the Unified Commanders in Chief a Navy and a Marine Corps capable of performing their missions—forces with strong strategic deterrence, sustained world-wide presence, and the flexibility necessary to respond to those regional threats; forces which can, in addition, contribute to national goals

of deterring terrorism and the interdiction of narcotics trafficking. Above, all, we must work hard to ensure that actions taken to meet budgetary targets will not reduce our forces in ways that are difficult, if not impossible, to reverse, should new threats emerge quickly.

The Department of the Navy fiscal year 1991 budget responds to these challenges and establishes the following priorities:

First, and in my mind foremost, is people. The Department's highest budget priority is sustaining the professional quality of our sailors and our marines. Only through their efforts can our advanced technology, our training, our tactics and strategy succeed. Accomplishing this requires addressing the aggregate of issues in compensation, quality of life, and training programs that both attract, as well as retain, the best of America's young people;

Second is readiness. All deployable Navy and Marine units must be fully manned and ready in terms of ammunition, spare parts, and training. Naval forces, as shown by our experience in past contingencies, will be given little, if any, time to prepare for combat. Past lessons learned from the days of "hollow forces," Mr. Chairman, will not and shall not be repeated. Sailors and marines must know that we will not allow their readiness to slip;

Third is balance. Our plan for fiscal year 1991 strikes, I believe, a careful balance among competing requirements, including force mix, readiness, sustainability, and investment in research and development;

Fourth is combat capability. Because U.S. superiority in antisubmarine warfare is critical to strategic deterrence, warning, and all of the other warfare areas, antisubmarine warfare remains the Department of the Navy's number one warfare priority. At the same time, we must prepare for the most likely power projection requirements, retaining a strength that resides primarily in the strike potential of our 14 aircraft carrier battle groups and the expeditionary capability of our fleet Marine force. Moreover, no warfare areas can be totally neglected in an era of rapid technological progress; and

Fifth is technology. The qualitative edge enjoyed by the Navy and the Marine Corps must endure—in all missions and in all warfare areas. Such superiority demands a vigorous research and development program to support the forces of the future whether or not a major new threat emerges in the near-term. The Department of the Navy's budget reflects this emphasis.

In conclusion, Mr. Chairman, today's volunteer professional sailors and marines, like their brethren in the sister services, are proud to serve in a revitalized, globally deployed fleet and fleet Marine force, extending across the horizon. All of our men and women, uniformed and civilian alike, are honored to have contributed to the United States strength and resolve that has fostered the peaceful and dramatic events that we have witnessed in 1989.

At the same time, we know from experience that uncertainties and dangers remain. The United States is, as I said, an island nation, depending upon the seas for our links to our allies, our friends, and our trading partners. Our national security will continue to require a strong, reliable, strategic deterrent, capabilities for control of the seas, and the ability to project power across the

world's oceans. As we decide together how to structure our defense for the future, we should, I believe, consider the flexibility and deterrent value of each purchase, favoring those which will have an enduring capacity to respond to the widest variety of likely contingencies.

. The Department of the Navy's 1991 budget reflects a plan that meets that challenge and is balanced and affordable. I believe it is worthy of this committee's support. Thank you, Mr. Chairman. I will be happy to respond to questions.

[The statement of Mr. Garrett follows:]

Annual Report to the Congress

The Honorable H. Lawrence Garrett, III
Secretary of the Navy

I. The Navy-Marine Corps Team and National Defense

The New Security Environment

Dramatic changes in the world order are now unfolding that are likely to alter fundamentally the basic tenets of U.S. defense planning. Political changes in Eastern Europe, a less immediately threatening Soviet military posture, and progress in arms negotiations are all factors that may broaden the focus and challenge the basic premises of U.S. defense considerations. At the same time, concern about the federal deficit and pressures to increase funding for domestic programs are combining with international events to produce a growing consensus in favor of reducing the defense budget.

While many of the changes taking place today give us cause for great hope, others are cause for great concern. There has been no decrease in regional instability, a simple fact illustrated by events in Asia, Central America, and by continued conflict in the Middle East. Complicating this picture is a rapid proliferation of sophisticated weapons to Third World countries, many with regimes hostile to U.S. interests. While we welcome the new views expressed by Soviet leaders, Soviet military capabilities are still formidable and modernizing, even so far as to incorporate carrier-based high performance aircraft. The Soviet Union, now in the throes of political turmoil, will continue to pose the greatest potential threat to the United States and its allies.

Progress toward a more democratic Eastern Europe, with its potential for lower overall levels of armament, is promising, but as with events in the Soviet Union, the course is uncharted, and success is far from assured. Moreover, threats to U.S. security interests are becoming more widely dispersed and transnational in character, involving problems as diverse as drug interdiction and terrorism. In this new environment, the United States will have an abiding need for military strength that is mobile, adaptable, and that may be operated independently of restrictions to basing and access.

Naval Forces: Still Critical to U.S. Defense

Some aspects of the future, however, are more certain. First, the United States remains unalterably an island nation, a maritime nation, dependent upon the seas which provide the avenues for our international business, for our links to allies overseas, and which provide a haven for a large portion of our strategic deterrent. Second, threats to world peace are spread throughout the world. To support our national security objectives, the Navy and Marine Corps must remain on station, maintaining a global presence with forces that can be tailored quickly to political, military, and geographic circumstances.

For America, the crisis is always an ocean away. If we desire to retain our role of world leadership, we must preserve the ability to influence events far from our shores, an ability exercised by naval forces in response to crises more than 25 times in the last five years. As access to overseas bases becomes more

restricted, as we are able to bring troops home, the President must rely more and more on our ability to operate from the seas. The Navy's sustained worldwide presence at sea lends visible support to alliance cohesiveness, regional stability, and the overall security framework for progress toward U.S. foreign policy objectives of peace and freedom.

Aircraft carrier battle groups offer a means, often the only means, to effect a regional balance of power at the scene of conflict. Our deployed Marine Expeditionary Units are the only ready forces available just off shore from the troubled area. And when the issue is resolved, these forces can just as easily be redeployed, assuming new roles in distant areas of the world. In an era of rapid and unpredictable political changes, this feature is more important than ever. These forces are on station today in international waters and airspace. Using the best of America's technology, these forces can bring combat power to bear, or send clear signals--of resolve, reassurance, or friendship.

Naval forces, to retain their deterrent effect and prompt responsive capability, must consist primarily of active units at high states of readiness. When America needs naval forces to respond, they must be at sea or ready to get underway. Complex warships cannot be easily created or mobilized for war. The Fleet's rapid recovery in preparation for the Korean War, when the battle force expanded from 237 ships in June 1950 to 1,100 ships in July 1951, was based on the large pool of inactive ships (including 29 aircraft carriers, 14 battleships, 51 cruisers, and 400 destroyers and frigates) that had been demobilized immediately after VJ Day. Today, such a pool of inactive ships does not exist. In 1950, the first mobilized aircraft carriers joined the Fleet within weeks. Today, with more complex combat systems, such a build-up for conflict would take years.

America, if she is to remain a world power, will always have a special need for ready, flexible, mobile maritime forces that can preserve our Nation's position of strength around the globe, acting wherever called upon to bring order to unstable and threatening situations. Your Navy and Marine Corps are ready to continue to meet this challenge.

The Navy and Marine Corps Today

As we enter the 1990s, the Navy and Marine Corps team is emerging from a decade marked by growth and substantial modernization, and by a restoration of unit readiness and stocks of war reserve materials that had eroded in the lean years of the 1970s. Our forces are ready, well balanced, and are manned by top quality Sailors and Marines. Our challenge as we plan for 1990 and beyond is to preserve the readiness of our naval forces to support the National Military Strategy, performing our enduring missions of strategic deterrence, power projection, sea control, and strategic sealift in what promises to be an era of rapid but clearly unpredictable change.

The U.S. force of ballistic missile submarines today is the most cost

effective and secure leg of the strategic triad, providing half of the nation's deliverable warheads for only one-quarter of the strategic budget. The new, more accurate, and longer-range D-5 missile will serve our deterrent needs well in an era of sharply reduced strategic inventories.

Our conventional striking power at sea is distributed widely, from the combined punch of a full aircraft carrier battle group, to the independent and selective use of submarines and surface ships with Tomahawk cruise missiles. Just as an aircraft carrier is a sea-based airfield, amphibious ships are the Marines' operating and maintenance bases, logistics and troop assembly areas, and the attack positions from which its forces can strike. Amphibious forces are optimally suited for crisis response missions ashore because they can be deployed, recalled, reconstituted, and subsequently redeployed as the political situation unmasks its demands on our military capabilities. Marine Expeditionary Force modernization has resulted in greater mobility and, through the use of pre-positioned afloat material, greater staying power wherever Marines may be called into action. With a shrinking overseas base network and fewer nations willing to allow access to their facilities, the strike and self-sustaining capabilities of our naval power projection forces are appreciating in value to our security with each passing day.

For a world power separated from its allies by oceans and reliant upon seaborne trade, sea control is the *sine qua non* for the other roles of deterrence, power projection, and lift. Unless we can sail safely, delivery of firepower or support of forces ashore is impossible. The new technologies of low radar observability, electronic warfare, and submarine acoustic quieting are challenging our ability to defend against enemy aircraft, missiles and submarines. Our new aircraft, warships and submarines, by necessity, incorporate the best of these characteristics, and the best available sensors and weapons to defend our forces at sea.

Arms Control

The U.S. objective in arms control is the enhancement of U.S. security while preserving an effective deterrent, supporting alliances, and achieving real reductions in risk. To that end, naval forces are included in U.S. negotiating proposals at the Strategic Arms Reduction Talks (START) in Geneva, and the Conference on Disarmament in Europe (CDE) Talks in Vienna. They are properly excluded from the Conference on Conventional Forces in Europe (CFE) Talks, which are focused on correcting the huge and destabilizing asymmetry in ground forces in Europe.

The U.S. position on naval arms control has been explicitly put forward by the President and many other senior spokesmen in the past few months. The policy of not negotiating on naval arms control is a function of both a clear understanding of the maritime requirements of this nation and a desire to bring the current talks to a successful conclusion within their specified terms of reference.

In contrast, recent Soviet public statements concerning naval arms control have been clearly aimed at negating the West's necessary maritime strength, and thereby limiting U.S. ability to respond to crises or to reinforce our Allies. The U.S. need to operate naval forces, globally and unconstrained, is analogous to the Soviet objective to maintain the freedom to reposition armed forces within their borders. The sea lines of communication defended by the Navy and Marine Corps have exactly the same vital importance to the West as the railway system defended by the Soviet Army.

Our need for credible power at sea is not and never has been related solely to the capabilities of the Soviet Union. Seagoing forces throughout our history have responded time and time again to the nation's call for rapid, effective response to threats to our security. Most recently these threats are posed by less predictable but increasingly capable forces in the Third World. Moreover, any arms control agreement that would restrict our ability to defend our interests anywhere in the world would weaken the West's deterrent posture and consequently decrease Western security.

Anti-drug Operations

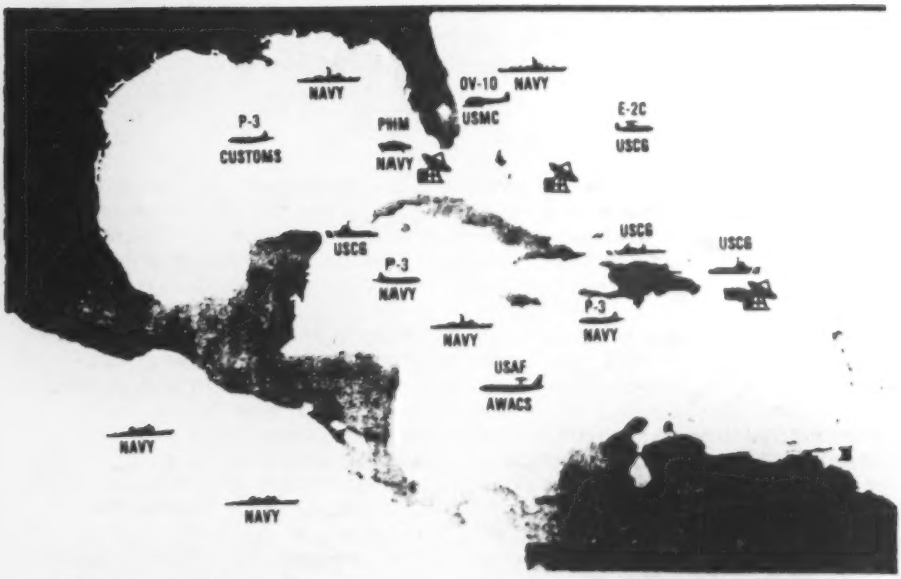
The Department of the Navy is fully committed to the detection and countering of the production, trafficking, and illegal use of drugs. Through assistance and cooperation with law enforcement agencies and other Services, we are taking action to prevent, disrupt, and deter illegal drug use.

The Department of the Navy moved aggressively in the 1980s to attack the drug use which was undermining military readiness. Testing, education, and enforcement within the Navy and Marine Corps has reduced the incidence of drug abuse, as detected by random urinalysis, from 33 percent ten years ago to about five percent today. The policy of "zero tolerance" has had a positive impact on morale, military fitness, and readiness, and stands as a positive example to the rest of society. At the same time, the Department of the Navy has steadily increased its support to law enforcement agencies to stem the pervasive drug trafficking which cripples American society.

While the law directs that military personnel are not to participate directly in search, seizure, or arrest, Sailors and Marines have taken an enlarged role in supporting national counternarcotics operations, and a leading role in detecting and monitoring the aerial and maritime transit of illegal drugs into the United States. In addition, the Department of the Navy directly assists law enforcement efforts through training, facilities, logistics, maintenance, communications, and equipment.

Since 1982, Navy ships have embarked U.S. Coast Guard Law Enforcement Detachments for dedicated counternarcotics operations or when steaming in common drug trafficking areas. Navy ships provide the bulk of the surface and air assets of the joint U.S. Caribbean Squadron, which conducts

COUNTERNARCOTICS OPERATIONS



interdiction operations near to the source countries and in choke points, such as straits where transit routes converge.

Today's expanded anti-drug operations, initially concentrated in the Caribbean area, have been extended to the Pacific. Our ships at sea are empowered at appropriate times to use warning shots, and if necessary, disabling fire to stop drug traffickers before they reach our shores. Navy aircraft, primarily P-3s, E-2s, S-3s, and shipboard helicopters, routinely conduct dedicated anti-drug surveillance operations. Marine OV-10 aircraft have been used as well to support Customs and Coast Guard operations. Marines man surveillance radars in the northern Caribbean area, and conduct joint training with the U.S. Border Patrol in selected areas along the southwest border which are commonly used for drug smuggling.

Navy Drug Interdiction Patrols

Fiscal Year	Ship Steaming Days	Aircraft Flying Hours
1988	2,037	7,382
1989	2,081	10,001
1990*	3,633	40,870
1991*	4,844	40,870

*Estimate

Navy and Marine personnel, both active and reserve, are assigned to the

regional offices of the Office of National Drug Control Policy, the State Department, and to the U.S. Drug Enforcement Administration to provide planning, intelligence, logistics, communications, and operational support. One hundred twenty-six billets at the new joint task forces dedicated to drug interdiction are filled with Navy and Marine Corps personnel.

Naval Operations in 1989

Throughout 1989, Sailors and Marines supported United States security interests in the full range of missions, from strategic deterrence, presence, and humanitarian action, through major international exercises, to crisis response. The summary of selected 1989 events is a clear indicator of the enduring role of naval forces in American security policy.

When not responding to crises or emergent tasking, Navy and Marine Corps units operated last year in all the world's oceans, exercising with European, Asian, and Latin American navies to build expertise and to reinforce the fabric of the alliances which America leads. U.S. ballistic missile submarines, operating quietly and undetected, conducted more than 100 deterrent patrols. While on routine transits and exercises, Navy ships rescued more than 250 refugees in the South China Sea. Ships assigned to the Joint Task Force Middle East escorted U.S. Flag vessels through Persian Gulf shipping lanes, acting as a force for stability in that area, now the scene of an uncertain peace. Marine forces in 1989 completed their Persian Gulf Mobile Seabase operations.

1989 HIGHLIGHTS

January-Ships of the Middle East Force in 1989 completed 236 Earnest Will missions,
December:ensuring the safe transit of 262 U.S. Flag ships through the Persian Gulf.

January: Two F-14s from USS JOHN F. KENNEDY (CV 67) shot down two Libyan MIG-23 Fighters which were maneuvering to attack the Navy aircraft.

February: Amphibious ships with an embarked Marine Expeditionary Unit moved toward Lebanon following a missile attack on the U.S. Ambassador's residence.

April: Amphibious ships with embarked Marines and oil recovery craft assisted in the cleanup following a tanker accident in Prince William Sound.

May: Even as events in Beijing unfolded, USS BLUE RIDGE (LCC 19), USS STERETT (CG 31), and USS RODNEY M. DAVIS (FFG 60) were welcomed in Shanghai, in the first visit to that city by U.S. Navy ships since 1946.

June: The fast sealift ship USNS BELLATRIX (T-AKR 288) transported Army personnel and equipment to the Panama Canal in response to political turmoil.

August:USS CORAL SEA (CV 43), USS IOWA (BB 61), and USS BELKNAP (CG 26) and an Amphibious Ready Group with an embarked Marine Expeditionary Unit were stationed off Lebanon in response to the suspected hanging of Marine Lieutenant Colonel William R. Higgins and to threats to other hostages. USS AMERICA (CV 66) battlegroup was ordered to the North Arabian Sea.

August:USS THOMAS S. GATES (CG 51) and USS KAUFFMAN (FFG 59) made a port call in Sevastopol, responding to the July visit of three Soviet ships to Norfolk, Virginia.

September: In the aftermath of Hurricane Hugo, USS CLIFTON SPRAGUE (FFG 16), USS STEPHEN W. GROVES (FFG 29), USS SEMMES (DDG 18), USS PENSACOLA (LSD 38), USNS NEOSHO (TAO 143), USS GUNSTON HALL (LSD 44), and USS AUSTIN (LPD 4) provided emergency services, including communications, medical aid, food, electrical power, and drinking water to residents of Puerto Rico and the U.S. Virgin Islands. Emergency teams of the USS FRANK CABLE (AS 40) and from Charleston area ships and shore activities assisted in disaster recovery efforts in the Charleston, South Carolina area.

October:USS BLAKELY (FF 1072) participated in the 115th combined Navy-Coast Guard drug seizure.

October: Following the San Francisco earthquake, USS LANG (FF 1060) provided steam for power generation, USS GRAY (FF 1054) provided emergency electrical service for the Marina District, and USS PELELIU (LHA 5) and USNS MERCY (T-AH 19) provided food and shelter for hundreds of earthquake homeless. In all, more than 11,000 Sailors and Marines aided in the recovery efforts.

December:U.S. and Soviet navies hosted a summit meeting between President George Bush and General Secretary Mikhail Gorbachev in the Mediterranean Sea.

December: An Amphibious Ready Group with an embarked Marine Expeditionary Unit, the USS MIDWAY (CV 41) and USS ENTERPRISE (CV 65) battle groups, and Marines reinforcing the U.S. Embassy in Manila responded to the attempted coup against Philippine President Aquino.

December: Navy SEALs and Marines participated in the restoration of Panama to elected civilian rule.

II. Resources of the Department of the Navy

Few issues are more discussed and less understood today than the relation of defense spending to the federal budget and to national economics. As the figures show, our current, declining level of defense spending represents a relatively small and decreasing portion of our national economy, and a decreasing portion of federal expenditure. In fact, by the Department of Defense plan, in FY 1995 both measures of defense expenditure will achieve their lowest levels in over fifty years. This general downward trend in defense spending reflects an appreciation of changes in U.S. security needs, taking into account political changes in Eastern Europe and the Soviet Union, as well as the enduring defensive missions of our armed forces. Moreover, the funding level devoted to national defense must reflect primarily the genuine security needs of the nation, as derived from the National Security Strategy.

Defense Budget Trends

Fiscal Year	DoD Percent of GNP	DoD Percent of Federal Outlays
1984	6.0	25.9
1985	6.2	25.9
1986	6.3	26.8
1987	6.2	27.3
1988	5.9	26.5
1989	5.7	25.8
1990*	5.2	24.0
1991*	5.0	23.7
1992*	4.7	23.3
1993*	4.4	22.6
1994*	4.2	21.6
1995*	4.0	20.6

* Estimate

The successive revisions made necessary by the defense budget cuts of the last five fiscal years have had cumulative effects. Foremost is the increased risk which attends the curtailment of some promising development and procurement programs in order to fund our more urgent operating needs. Second, efficiency is lost when we introduce change and instability in procurement programs that increase business costs.

Despite the constant tempo of operations worldwide, funding for Navy and Marine Corps programs has experienced real decline for the sixth straight year. In real terms, the FY 1991 Department of the Navy program remains below that for any fiscal year since 1982. Budget austerity will result in FY 1991 in the deactivation of 23 ships, a decrease only partially offset by the FY 1991 delivery of 18 ships funded in prior years. Deactivated units in FY 1991 include two battleships, 11 guided missile destroyers, one diesel submarine, eight nuclear powered attack submarines, and one fleet oiler. Six frigates and an amphibious landing ship will be transferred in FY 1991 from the active to the reserve fleet. The Marine Corps placed three infantry battalions in cadre during FY 1989 and transferred several active support units to the Reserves. Program cancellations since the FY 1990/1991 President's Revised Budget Submission last year include Maverick after FY 1990 and Harpoon after FY 1991. Procurement of the M-1 Tank concludes in FY 1990 and development funding for the V-22 and Sea Lance is terminated after FY 1990.

Navy battle forces overall will continue to decline in number, from a strength of 566 ships in FY 1989 to a Fleet of 546 in FY 1991. With funds appropriated for FY 1989 the Department of the Navy initiated procurement for 207 aircraft and 20 ships. Funding for FY 1990 will support a buy of 145 aircraft and 19 ships, including an icebreaker for the U.S. Coast Guard. The budget request for FY 1991 includes funding for 178 aircraft and 15 ships.

Budget Priorities

Our challenge is, within fiscal constraints, to provide to the Unified Commanders-in-Chief a Navy and Marine Corps capable of performing their missions, with a strong strategic deterrent, a sustained world-wide presence, and the flexibility necessary to respond to regional threats and to contribute to national goals of deterring terrorism and the interdiction of narcotics trafficking. At the same time, domestic fiscal pressures require that we concisely define and articulate our requirements as we continue to provide for our nation's security needs. Above all, we have worked hard to ensure that actions taken to meet budgetary targets will not produce effects that are difficult, if not impossible, to reverse, should new threats emerge quickly.

The FY 1991 budget reflects these highest priorities:

- People. The Department of the Navy's highest budget priority is sustaining the professional quality of our Sailors and Marines. Only through their efforts can our advanced technology, training, tactics, and strategy succeed. Accomplishing this requires addressing the aggregate of issues in compensation, quality of life, and training programs that attract and retain the best of America's young people.

- Readiness. All deployable Navy and Marine units must be fully manned and ready, in terms of ammunition, spare parts, and training. Naval forces, as shown by our experience in past contingencies, will be given little, if any, time to prepare for combat. Past lessons learned from the days of "hollow" forces shall not be repeated. Sailors and Marines must know that we will not allow readiness to slip.

- Balance. Our plan for FY 1991 strikes a careful balance among competing requirements, including force mix, readiness, sustainability, and investment in research and development.

- Combat capability. Because U.S. superiority in antisubmarine warfare is critical to strategic deterrence, warning, and all other warfare areas, ASW remains the Department of the Navy's number one warfare priority. At the same time, we must prepare for the most likely power projection requirements, retaining a strength that resides primarily in the strike potential of our fourteen aircraft carrier battle groups and the expeditionary capability of our Fleet Marine Force. Moreover, no warfare areas can be neglected in an era of rapid technological progress, when

high-technology weapons spread quickly to unreliable actors, and when the character of military operations is difficult to predict.

- Technology. The qualitative edge enjoyed by the Navy and Marine Corps must endure--in all missions and warfare areas. Such superiority demands a vigorous research and development program to support the forces of the future, whether or not a major new threat emerges in the near term.

III. Sailors and Marines

This meeting is taking place because you have done your jobs; you have done your duty. You and Sailors like you all around the world have kept us strong and helped the horizons of democracy eclipse nation and race. Because of you, freedom is sweeping the globe. Our meeting here off Malta will last two days, but the freedoms that we seek must last for generations.

- President George Bush aboard USS FORRESTAL (CV 59) 1 December 1989

Today's Sailors and Marines are better trained and equipped than at any time in the Navy's history. Today, more than ninety ships are underway, with about 100,000 Sailors and Marines, on station, demonstrating their commitment and dedication to our country by serving in virtually every area of the globe. When our national interest requires military action, as it has more than fifty times in the last ten years, Sailors and Marines have been there, ready and willing to respond as a fully trained, integrated and professional fighting force.

Our volunteer Sailors' and Marines' professionalism and dedication are evident wherever they serve in the Fleet. But sea duty remains a particularly arduous endeavor. Our men and women rate family separation as the number one "dissatisfier" in their careers. Six month deployments, underway periods away from their home ports, and overnight duty inport all combine to strain their quality of life. We must not ask our servicemen and their families to bear the burden of declining defense budgets by retreating from today's Perstempo standards, either by increasing the length of their deployments or by shortening their time inport.

A Sailor's First Tour

Our first term enlistee is typically a high school graduate who finished in the top academic half of his class. He enlisted for four years of service, and received five or more months of military and technical training before reporting to his first ship.

During his first sea tour, our young Sailor will make two six-month deployments to the Western Pacific, the Mediterranean, or the Middle East. Between these major deployments, his ship will spend thirty percent of its time underway for routine testing, training or other operations, such as counternarcotics patrols. At sea, our Sailor has a 70-80 hour work-week, with demands of training, maintenance and watchstanding. Inport, in addition to normal work-day duties, he will spend every fifth night aboard the ship for watchstanding and security requirements.

Through a demanding program of classroom and on-the-job training, the typical first-tour Sailor will acquire the technical competence to maintain equipment under his direct responsibility, often with values of more than $1 million. He will learn quickly about leadership as well, rising typically to the rank of E-5, or Second Class Petty Officer during his first enlistment, a position reflecting his experience, and the special trust and confidence we have in our men and women of the Sea Services.

The people who make up today's Navy and Marine Corps are a mirror image of our society, with the same needs and concerns of every individual American. In addition, these professionals have voluntarily accepted the challenges found in today's Navy and Marine Corps with the faith that we will continue to support them and their families' needs. However recent pay increases have failed to keep pace with inflation and the pay gap

between military and civilian wage growth continues to widen at an unacceptable rate. Unhappiness with pay has returned as the number two "dissatisfier" with Navy life because of this widening comparability gap. Providing our personnel with competitive compensation and benefits is fundamental to our commitment to retaining a competent, professional force.

Today's Marine

Today's Fleet Marine Force is made up of volunteers, men and women personally committed to service, pursuing the intangibles--esprit, pride, courage, self discipline--always associated with the United States Marine Corps.

During his very first tour, a young Marine will deploy overseas at least twice, either afloat or ashore. In both the western Pacific and the Mediterranean, Marines are embarked aboard combat-loaded amphibious ships, on station, ready for action in contingencies that may never happen, or are just about to. In a rapidly changing battlefield, success depends, more than ever, on competence, maturity, and initiative, essential traits to prevail despite unforeseen circumstances.

To cope with these new demands, we have beefed up the warrior skills taught in boot camp, with more weapons training, more field training, and upgrades to our lessons in marksmanship, physical fitness, water survival, and close combat. Before learning his specialized skill, whether avionics technician, artilleryman, or computer specialist, every Marine gets an extra dose of combat training, emphasizing squad level tactics, crew served weapons, and offensive combat skills. We have backed up this program with more training for our non-commissioned officers, to make sure they are ready to lead their units, and to teach their people in basic combat skills.

Today's Marine, like others before him, is ready to fight "in every clime and place", from the snows of Norway to the heat of the Persian Gulf. He's the best qualified, best trained Marine in our history, with the combat skills and the street-smarts to cope with whatever job comes his way.

As we adjust manpower programs to reflect changes in force structure, it is imperative that we improve the quality and experience of our personnel, and thereby sustain or improve Fleet readiness. We must continue to fund personnel accounts to ensure that our people can be promoted, transferred and paid so as to be able to live at a level comparable to their civilian counterparts.

Navy and Marine Corps Reserve

In keeping with Congressional direction, the responsibilities and missions of the Naval Reserve are integral to the Navy's Total Force. Several critical missions are exclusively, or predominantly entrusted to the Naval Reserve. These include helicopter strike rescue and special warfare support, mobile inshore/undersea warfare and, within the continental U.S., heavy airlift and fighter-composite squadrons. The Naval Reserve is now responsible for more than 80 percent of our Control of Shipping organization, cargo-handling battalions, military sealift personnel, and mine warfare ships. Upon mobilization, the Naval Reserve would provide more than 50 percent of our mobile construction battalions, fleet hospitals and special boat forces, and almost 35 percent of naval intelligence personnel and 28 percent of the maritime air patrol capabilities needed in wartime.

As a matter of routine, Naval Reservists train and operate with their

mobilization commands in the fleet. Their professionalism and commitment were very much evident in the Persian Gulf where full time Reserve support personnel (TARS) and voluntarily recalled drilling Reservists worked side by side with their regular Navy counterparts.

The Marine Corps Reserve is structured, equipped, trained, and ready to augment and reinforce the active forces when employed in high intensity conflict. Upon mobilization, this Reserve component provides up to 33 percent of the Marine Corps' wartime manpower requirements, 40 percent of Marine tank battalions, 25 percent of the artillery, 33 percent of the observation aircraft, 29 percent of the aerial refueling aircraft, 28 percent of the light attack aircraft, and 25 percent of the anti-aircraft missile capability.

Our Reserves are ready for selective call-ups, whether for contingencies, major conflict, or special tests of our mobilization capabilities.

Women in the Sea Services

Uniformed women of the Navy and Marine Corps contribute more to accomplishing the Department of the Navy's missions than ever before. Their duties are expanding into every area permitted by law. With the recent selection of women to serve as Commanding Officers of aviation squadrons, ships, and shore commands, Navy women will have a direct, positive impact on every facet of naval warfare. Presently, women make up 9.6 percent of Navy enlisted personnel and 10.3 percent of the Navy officer corps. A variety of billets historically closed to females have been opened, including 88 of 102 enlisted ratings and all of the officer communities except for submarines and special warfare. A refinement of the Defense Department's interpretation of the combat exclusion laws and modified regulations have facilitated the assignment of more women to sea-going billets, and permitted the assignment of women Marines to Marine Security Guard detachments at embassies and to the Marine Security Force aboard bases and ships.

Women now serve at sea in 7938 enlisted and 281 officer billets aboard 120 ships, and 7491 enlisted and 324 officers serve in 110 aviation squadrons. Sea-going billets are found aboard submarine and destroyer tenders, repair ships, a training aircraft carrier, Military Sealift Command Ships, and Combat Logistic Force Ships. In naval aviation these billets are found in maritime patrol, fleet composite, tactical electronic warfare, helicopter combat support, and training squadrons. Active management measures such as selective recruiting and pre-service counselling have also improved the balance between men and women in sea-intensive and shore-intensive ratings. Overall, career opportunities for women have dramatically improved, with women filling responsible, and technically challenging jobs.

Recruiting

The Navy attained 100 percent of its FY 1989 accession goal, with 95,186 accessions, of which 89,379 were non-prior service. Ninety percent of these new Sailors had high school diplomas, and 11 percent came from the lowest recruitable mental group. These quality indicators declined slightly from the previous year. A strong national economy, declining numbers in youth eligible to enlist, and reduced awareness of the Navy among recruitable youth continued to increase the challenge of recruiting. A continued downturn in higher quality non-prior service male accessions required more non-prior service female and prior service male accessions to achieve overall recruiting goals. The Navy's Delayed Entry Program pool of recruits waiting to start their naval service, which provides a buffer for leveling the recruiting effort, declined markedly for the second year, another indicator of increased recruiting difficulty. The Marine Corps continued to meet quality and quantity goals, with high school graduates accounting for 94 percent of their 30,911 non-prior service accessions.

The Navy continues to focus on the interrelated factors of recruiting, retention, and attrition. High quality recruits are more likely to complete their first enlistments, and to contribute to the professionalism, satisfaction, and morale in the Fleet. Together with initiatives to maintain quality of life, such satisfaction also helps retention, which in turn reduces the number of new enlistees needed to sustain combat ready forces.

Competition from the private sector, coupled with young people's perception of today's budgetary climate, may lead the best candidates away from a military career. New initiatives such as increased advertising, the Navy College Fund, and the Navy Technical Scholarship Program are expected to assist the Navy's recruiting efforts. Our advertising and personnel initiatives must continue unabated if we are to attract the best and brightest to serve in our naval forces.

Navy Medicine

High quality, readily accessible medical care is a key quality of life factor for our Sailors and Marines. Not all of our problems are solved, but our progress has done much to reassure our people in uniform of the Department of the Navy's commitment to their health and the health of their families. Some new health care delivery methods hold promise for improving care. Under our managed care philosophy, we assess the level of care necessary in a case, and then determine who can best perform the required treatment. Recent partnership agreements, under which civilian physicians treat our beneficiaries in Navy facilities under a CHAMPUS contract, have improved our ability to provide specialized treatment to dependents. Additional innovations being tested, such as the Family Practice demonstration project, continue to raise our beneficiaries' satisfaction with Navy Medicine.

Navy Medical active duty personnel strength is improving, with Medical

Corps strength better now than at any time since the post-Vietnam draw-down. Our retention and recruiting initiatives and newly revised special pays schedules are having a positive effect. The national nurse shortage continues to challenge our ability to attain our Nurse Corps end strength goal. However, the programs contained in the Department of Defense Authorization Act for Fiscal Years 1990 and 1991, combined with our own recruiting, retention, and educational assistance programs, brighten the outlook for the future.

By contracting for key services within Navy facilities, we are offsetting some of our remaining staff shortages and making better use of our in-house capability. In FY 1989 Navy facilities' patient load increased both in terms of admissions (more than three percent), and outpatient visits (seven percent). Contractor NAVCARE clinics handled 668,591 primary care outpatient visits in FY 1989. At the same time the NAVCARE clinics helped to bring patients back to in-patient facilities. All these initiatives have two goals: increased access to quality care for our beneficiaries and avoidance of unnecessary CHAMPUS costs.

IV. Department of the Navy Programs

As a result of the investments of the past 10 years, the Department of the Navy today enjoys key strengths in terms of the quality of its people, a balanced force structure, high readiness, and a firm technology base. Consistent with the views of the Unified Commanders in Chief, the Department of the Navy program reflects a careful balance among funding of warfare areas, the pillars of force structure, readiness, modernization, and sustainability, and among near- vs. long-term investments.

Fourteen Carrier Battle Groups and three Marine Expeditionary Forces will remain the centerpiece of our naval force structure. These forces will include a balanced mix of modern, highly capable aircraft, surface combatants, submarines, amphibious forces, and mine warfare ships, supported by integrated and inter-operable command and control systems.

In order to ensure that appropriate readiness levels are maintained, we have retained only that force structure which can be manned, equipped, maintained and supported commensurate with requirements. We have considered for inactivation/retirement those aging ships, aircraft, combat systems and other equipments that are approaching the end of service life, provide only marginal capability against the threat, or have disproportionately high operating and support costs. Where possible we have made vertical cuts to retire entire classes of weapons or systems to eliminate all associated infrastructure and support costs. The cost of continued operation has been weighed carefully against such considerations as warfighting contribution, feasibility of rapid reactivation, inactivation/reactivation costs and the cost of long-term storage.

Modernizing Our Forces

In keeping with our emphasis on supporting only those programs that support our long-term security needs, the preferred method for upgrading the combat capability of our forces is through replacement of diverse and aging ships, aircraft, and systems with up-to-date units, of fewer types, that will be less costly to operate and maintain. Unit modernization, including remanufacturing, of existing ships, aircraft, and systems will normally be undertaken only if essential to correct critical deficiencies in combat capability, self-protection, safety, reliability, or environmental protection. In fielding new systems, we have concentrated on those which best leverage the combat capabilities of our overall force.

The Department of the Navy's major combatant ship programs include development of the new SEAWOLF class of nuclear powered attack submarines, the Trident D-5 submarine-launched ballistic missile, and the new class of Aegis-equipped destroyers. The lead ship of this class, ARLEIGH BURKE (DDG 51), was launched in September 1989. Major aviation programs include the new A-12 Advanced Tactical Aircraft, with both Navy and Air Force applications, the P-7 ASW patrol aircraft, the T-45TS trainer, the Navy Advanced Tactical Fighter,

and the Advanced Tactical Surveillance system. Continued progress on these key elements of tomorrow's naval force structure is essential, to retain our position of preeminence at sea.

Marine Corps developmental priorities lay in building an over the horizon assault capability to fill future U.S. needs for swift, effective expeditionary operations. Specifically, the Marine Corps is working to acquire a helicopter replacement for the aging CH-46, and an advanced amphibious assault vehicle, a high water-speed amphibian that can move assault elements of a Marine Air-Ground Task Force from amphibious shipping located over the horizon to inland objectives.

To reduce operating costs and increase commonality, the Marine Corps is reducing the number of types, models, and series of aircraft in its inventory. Requirements will be met with in-production aircraft, incorporating necessary upgrades, such as an improved radar for the F/A-18, the Helicopter Night Vision System for the CH-53E, and the Night Targeting System for the AH-1W.

Research and Development

Our ability to support U.S. national security objectives in the future depends on today's program of research and development. By enhancing the technology base and by ensuring a technically disciplined transition to production, we will increase the reliability, effectiveness, and maintainability of systems and components while reducing manning, support, and subsequent acquisition costs. The Department of the Navy is placing a greater emphasis on science and technology and test and evaluation, to provide resources that keep pace with technological advances and to identify capabilities that can then be selected for production. Our focus is on technologies with the greatest potential for improving combat capability

Key Technologies for the Future

- Modern electronics devices, including: sensors for surveillance, target location, precise navigation, and weapons guidance; advanced computers for data processing and fusion, greater computing power, and communications; and software for sensor processing, data fusion, automation and decision aids.
- Stealth and counterstealth.
- Automation, robotics, and advanced guidance and control systems for unmanned underwater, air, and ground telerobotic vehicles.
- Advances in weapons propulsion and lethality.
- Ship design, including integrated electric drive and weapons systems and superconducting motors.
- Advanced communication architectures and information processing systems, including software advances.
- Advanced materials including superconductors, ultralow-loss fiber-optic cables, thick section composite materials for structures, and gallium arsenide for advanced electronic circuits.

in each warfare area.

Rather than develop technologies on a piecemeal, item-by-item basis, we are identifying linkages between technologies within and across systems. Developing technologies in clusters lays the foundation for system engineering, which can be carried out in parallel with component research and development. Military effectiveness and affordability goals are kept in sight while pursuing an integrated program of development.

One such technology cluster is the Navy's advanced propulsion machinery system, consisting of new design ship propulsors and electrical distribution networks, fed by an inter-cooled regenerative gas turbine engine which drives generators for both propulsion and ship service power. The requisite technologies are being developed in parallel to meet the demands of Fleet firepower performance and affordability, with a view to incorporating this new system in a future surface combatant and other types of ships.

Coordination across systems and platforms is critical to success in each warfare area as well. The Navy's top warfare priority is antisubmarine warfare, which is supported by several programs, including development of the new SEAWOLF class attack submarine, the new P-7 antisubmarine patrol aircraft, shipboard sonar upgrades, and a concentrated program of research. Advances in airframe materials and electronics will provide opportunities in stealth, performance, and cost reduction of missiles and aircraft. We are striving to bring new ideas for ship hull forms, propulsion, and integrated weapons systems out of the labs and into the fleet, and to manage that process in a cost-effective manner through operational prototypes.

Navy Advanced Technology Demonstration Projects

All-optical Towed Array
Unified Network Technology
Airborne Transient Processor
Fiber Optic MK 48 ADCAP Torpedo
Surveillance Infrared Search and Track
Magnetic and Acoustic Detection of Mines
Quiet Weapons Launch
Adaptive Monopulse Countermeasures
Advanced ESM for Ship Defense
Intelligent Welding System
Synthetic Red Blood Cells
Air Weapon Neural Computer
Undersea Weapons Guidance and Control
Advanced Techniques for Combat Wound Management

Advances in missiles and unmanned vehicles, including their guidance, performance, stealth, and cost reduction will foster the development of longer-range and more effective fleet-related airborne surveillance and targeting systems. Missile systems will extend the attack capabilities of platforms that are likely to remain longer with our active Fleet, highlighting the importance of "planned" product improvement for both forces and systems. "Intelligent" machines may reduce manpower and improve combat damage control and shore- and ship-based fleet support.

To streamline the development path of technologies into systems, we are paying special attention to the early phases of advanced development. For example, the Advanced Technology Demonstration program is designed to uncover potential problems prior to large investments. It is the Navy's surest means of transitioning high-payoff technologies into weapon systems.

The requirement to maintain a well-trained Navy and Marine Corps in the face of declining resources and the increasing sophistication of our combat systems poses a tremendous challenge. We are working to develop targets, embedded trainers and training ranges which test the outer limits of our weapon systems and their operators, and provide realistic feedback on their performance at a reasonable cost. As we increase the sophistication and capability of our operational training, we will examine the feasibility of further streamlining the shore training establishment to produce compensatory savings.

Sealift

Sealift is essential to the capability of the United States to project military power abroad in time of crisis or war. In any scenario involving large scale deployments of forces, more than 95 percent of the equipment and resupply material must move by sea.

Although we presently have 167 sealift ships under government ownership and control, the bulk of our sealift forces must come from the private sector--the merchant marine. We are most concerned, therefore, that the United States continues to have a healthy commercial merchant marine. We have taken steps to ensure that special purpose sealift platforms and equipment are in the government inventory, but we continue to believe that sealift requirements are most efficiently and effectively achieved through close cooperation between the military and the merchant marine.

Over the past ten years, the Department of the Navy has funded a number of programs to compensate for military sealift capability lost as the privately-owned U.S.-flag merchant marine declined. It is clearly beyond our means, however, to make up for the continued loss of commercial capability projected for the 1990s. At the request of the Department of Defense, the National Security Council assessed the situation, and in October 1989, the President signed a National Security Directive on Sealift establishing a new sealift policy.

Under the new sealift policy, we will continue to rely on the private sector merchant fleets of both U.S. and allied nations to provide military sealift. To that end, the policy calls for formulation of programs necessary to ensure that adequate sealift assets are available to our military forces. Together, the Department of Defense and the Department of Transportation are assembling an agenda of programs and actions to ensure the adequacy of our sealift forces in the years ahead.

Department of the Navy Infrastructure Ashore

Our priorities in people, readiness, and force balance are reflected in our program of infrastructure. Within budget constraints, we have supported essential upgrades in government-provided family housing, child care, and quality of life for our Sailors and Marines.

The FY 1991 program supports the base realignment and closure actions recommended last year by the Base Realignment and Closure Commission, and initiates new actions to close the following activities:

Detroit Naval Air Facility, Michigan
South Weymouth Naval Air Station, Massachusetts
Nea Makri Naval Communications Station, Greece
San Miguel Naval Communications Station, Philippines
Partial drawdown of forces at Bermuda Naval Air Station

The size and extent of the Department of the Navy's infrastructure, the labs, shipyards, testing and maintenance facilities, air stations, and home ports that support the Fleet, is driven by the requirements of the Fleet and the Fleet Marine Forces. Should further reductions be necessary in the Department of the Navy's force structure, there must occur commensurate decreases in overhead costs, including the consolidation or closure of some supporting facilities ashore.

In each case, the Department of the Navy will initiate the necessary supporting actions required by law, such as environmental impact statements, and for the evaluations covering fiscal, local economic, budgetary, environmental, strategic, and operational factors. We intend to take every possible step to alleviate the economic hardship and personnel turbulence of any necessary base closures.

Environmental Action

Secretary Cheney recently expressed his desire for the Department of Defense to be the Federal leader in environmental compliance and protection. The Department of the Navy's establishment of a new Assistant Secretary of the Navy for Installations and Environment reflects its commitment to environmental protection, and its goal to be the leader in the Department of Defense.

Navy environmental protection policy has been in place since the early 1970s, and has been strengthened by increasing integration of environmental considerations into budget and operational planning. To date, over $2 billion has been expended to comply with changing and even increasing legal requirements. Annual program budgets now exceed $350 million for FY 1990. These efforts

have had concrete results. The Fleet today is equipped to transfer shipboard sewage pier-side while in port. Shipboard discharge of oil at sea is becoming a rarity as separators are installed, and other overboard discharges are under rigid controls. Plastics discharges at sea have been reduced 70 percent over the past year.

Ashore, excellent progress has been made in air pollution abatement, the treatment of industrial waste, and the reduction of hazardous waste. For past hazardous waste disposal sites a Navy-wide program is in place, funded under the Defense Environmental Restoration Account which has identified over 2000 sites at more than 200 installations. Investigations which will lead to remedial actions or cleanups are currently in progress at these sites.

Future, more stringent regulations will require even better shipboard pollution control systems as emissions at sea are restricted even further. As landfills reach capacity, waste reduction and recycling will expand in its importance. New restrictions, such as to chlorofluorocarbon use, must be anticipated through new equipment design. Our stewardship, of the seas and the land we hold in public trust, is the surest way to maintain access to the air, land, and water we need to accomplish our missions.

V. Managing the Department of the Navy

In-house and contracted Department of the Navy activities include laboratories, testing facilities, manufacturing, inventory management, repair, and most important, worldwide military forces operating in support of national security interests. An expert group of Navy and Marine Corps managers execute over three million contract actions each year, with a value over $55 billion. This makes the Department of the Navy one of the largest research, engineering and production enterprises in the United States.

Many difficult acquisition decisions lie ahead, and we must be willing to revisit prior-year decisions if underlying factors such as budgets and procurement quantities change. While sound business practices must govern our decisions, each case must be evaluated on its own merit. There are many factors which must be weighed, including efficient production rates, the advantages of multi-year procurement, the benefits of competition, and the critical need to maintain the viability of a core industrial base.

Defense Management Review

The Secretary of Defense has approved the Department of the Navy's plans for initial implementation of the Defense Management Report. These Plans prescribe a combination of initiatives which will consolidate and clarify oversight authority, enhance decision authority and accountability of program managers and their direct supervisors, reduce cost, and otherwise improve the Department's acquisition system.

The New Department of the Navy Acquisition Organization

The Department of the Navy will consolidate and streamline top-level oversight of the acquisition process by establishing a new Assistant Secretary of Research, Development and Acquisition [ASN(RD&A)]. The ASN(RD&A) will be responsible for all aspects of research, development, acquisition, and information resources management, consolidating in one office many responsibilities previously divided among the Assistant Secretaries for Shipbuilding and Logistics; Research, Engineering and Systems; and Financial Management. The ASN(RD&A) will be designated the Navy Acquisition Executive, Senior Procurement Executive, and Information Resource Management Official. The Assistant Secretary of the Navy for Installations and Environment [ASN(I&E)], also a new position, will have policy and oversight responsibility for Navy and Marine Corps installations, environmental affairs, safety, and shore resources management, strengthening top-level focus on these critical areas.

The Department of the Navy will also substantially reorganize its acquisition management structure below the Secretariat. Seven Program Executive Officers (PEOs) will be established separately from existing Navy and Marine Corps weapons acquisition commands as key middle managers for major

acquisition programs. Each will report solely and directly to the ASN(RD&A) on all matters concerning cost, schedule, and performance regarding assigned programs. Moreover, three existing Program Managers will also report directly to the ASN(RD&A), rather than through a Systems Command. The plan provides for transfer of a total of 78 major and associated programs to these PEOs and Direct Reporting Program Managers, programs which were valued at more than $19 billion in the President's FY 1990 budget.

Existing Navy and Marine Corps Commands with weapons systems acquisition missions will retain management responsibility for all programs not assigned to PEOs and Direct Reporting Program Managers, and will furnish matrix engineering, contracting, legal and other support to PEOs and Direct Reporting Program Managers. Navy Commands will also retain logistics support responsibilities for all programs. Life cycle management of Marine Corps systems will continue to be performed by the Commander of Marine Corps Logistics Base, Albany.

In reorganizing the Secretariat and the acquisition management structure, the role of support staff, both at the secretariat level and in subordinate commands, will be refocused to ensure that decision authority and accountability is vested in line managers and is exercised at the lowest appropriate level. This approach, together with opportunities flowing from consolidation of previously divided responsibilities, will reduce the Secretariat staff engaged in review and oversight of acquisition matters by more than 20 percent. Reductions associated with streamlining the decision process in existing weapon system acquisition commands will be identified as the decision process is reviewed and changed.

Department of the Navy Management Initiatives

- Improved efficiency of operations at Navy Industrial Fund activities, including shipyards, aviation depots, and research and engineering laboratories.
- Increased competition in areas not historically subject to competition, including breakout and competition of avionics on new procurement aircraft which had historically been procured as sole source by the prime contractors, and competition between public and private concerns for the repair of ship and aircraft components.
- Large lot procurement of naval ships, to permit savings in the purchase of contractor and government furnished material and improved coordination of the shipbuilders' production workforce.
- Ten separate Computer Aided Logistic Support(CALS) initiatives, to improve and reduce the cost of development, maintenance, and dissemination of logistic and design data. For example, print-on-demand output of complete bid packages, accurately incorporating required technical information, at Inventory Control Points, Supply Centers, and Regional Contracting Centers will reduce procurement lead-time and increase competition.

The Navy will also make substantial changes in the Material Professional program through which its surface, aviation and submarine officers are selected for key senior acquisition assignments. Such officers will be selected much

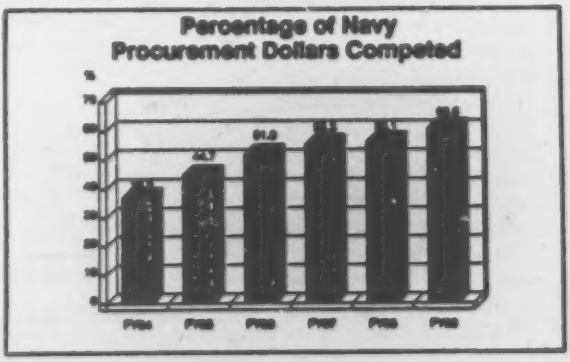
earlier in their careers, and will be managed intensively through graduate education, acquisition assignments ashore, and acquisition-related operational tours to ensure ample experience and expertise prior to assignment to key acquisition positions. The Marine Corps will make similar enhancements in its Acquisition Management Officer program. The Civilian Material Professional program will also be substantially strengthened to develop civilian acquisition professionals for key assignments, including as major Program Managers and PEOs.

In addition, the Navy has undertaken to establish a comprehensive education program, stemming from the Packard Commission Report, directed at program management, financial, and technical personnel. The subject matter includes the technical disciplines and processes involved in design, production, logistics, management, and facilities, utilizing a series of technical reference guides developed specially for the program.

Finally, the Department of the Navy has moved aggressively to identify cost savings initiatives flowing from implementation of the Defense Management Report. Many of these initiatives are coordinated DOD-wide undertakings, including reductions to supply systems operating costs, better accounting and control of government furnished material provided to prime contractors, civilianization of support positions not required to be filled by military personnel, and standardization of ADP systems.

Competition

Competition remains the most effective strategy for program management. With strong leadership and support of top management, acquisition professionals throughout the Department of the Navy have incorporated competitive acquisition as a fundamental tool in their program development.



The FY 1989 final competition statistics reflect the results of this commitment. The percentage of procurement dollars competed increased in FY 1989 for the eighth consecutive year, to an all time high of 60.6 percent. The percentage of contract actions awarded competitively reached a total of 89.6 percent. In terms of dollars, we have increased from $9.4 billion in FY 1982 to $26.9 billion in FY 1989, a $17.5 billion increase. As a percentage of procurement dollars, our FY 1990 goal is a challenging 61 percent.

Over the past five years, the investment made in implementing dual sourcing strategies has resulted in significant cost savings. For example, introducing competition in 1986 in the Standard Missile Guidance, Control, and Autopilot program yielded a price reduction of 35 percent and a projected savings of $360 million over the next five years. The $110 million start-up cost will be recovered more than threefold during that period.

Our experience shows clearly that a competitive marketplace delivers high quality products at fair prices. Competition eliminates the need for time-consuming and costly audits and evaluations. More important, the industry incentive to improve manufacturing capabilities results in increased productivity and quality.

We look to the future with a high degree of confidence that the application of our acquisition strategies will continue to produce meaningful savings. Competition can be employed to enhance innovation, quality, supplier responsiveness, and price consciousness. The demands of a declining budget will require careful analysis of the market forces at work in each procurement action. We must examine how these forces can best be applied to benefit both industry and government. We are sensitive to the impact of competition on our industrial base and on industry's investment in research and development. Our goal is a sound business environment supporting sound defense acquisition programs.

Quality Focused Management

Quality Focused Management is the Department of the Navy's strategy for improving quality and reducing costs and acquisition time. The Under Secretary of the Navy is the focal point for this over-arching effort, encompassing initiatives in acquisition streamlining, value engineering, non-developmental items, productivity improvement, specifications and standards, and Computer-aided Acquisition and Logistics Support (CALS). The primary tools of Quality Focused Management are continuous process improvement, quantitative methods, customer focus, and total employee involvement.

Focusing on Quality saves money. In FY 1989, these initiatives yielded savings and cost avoidance of $2.21 billion. Examples of acquisition streamlining benefits include the Navy's Advanced Tactical Fighter engine program which avoided costs of $1.22 billion and the ES-3A avionics program which avoided costs of more than $553 million. Thirteen months were cut from the procurement lead time for the Engineering Drawing Management Information and Control System. Value engineering for additional capability and quality saved more than $278 million in FY 1989, with follow-on savings potential through FY 1990 of $140 million.

The Navy also has the lead in the Department of Defense Third Party Certification Program. This is a project to reduce redundant audits of contractors by providing a reliable, objective manufacturing assessment by a

nationally recognized certifying body. Industry has identified a potential cost avoidance of $586 million for microcircuits alone.

As a part of the Navy's acquisition strategy and integral to the concept of Quality Focused Management, the Navy will continue to place emphasis on the Manufacturing Technology Program (MANTECH) and strive to take more advantage of the Industrial Modernization Incentives Program (IMIP). These are cooperative programs with industry aimed at improving the productivity and responsiveness of the industrial base while reducing the cost of weapon systems. The MANTECH program has saved $1.2 billion to date and IMIP projects have saved close to $1 billion.

By using off-the-shelf alternatives to government specifications, we can avoid excess design costs and take advantage of commercial standards. In FY 1989, such non-developmental items were used in many programs, including the P-3C Infra-Red Detection System Recorder and the Tomahawk Block III missile.

Computer-Aided Acquisition and Logistics Support, or CALS, is a technique of using computer technology, rather than paper, to support design, manufacturing, and administrative work loads. We are leading a Department of Defense effort to use CALS to cut costs and add flexibility to several programs, including the new A-12 Advanced Tactical Aircraft, the Navy Advanced Tactical Fighter, the MK 50 torpedo, the Stratified Charge Rotary Engine, and the new underwater acoustic Fixed Distribution System.

Training our managers, engineers, technicians, and contracting personnel in ways to benefit from these initiatives is key to further improvement in the acquisition process. The Department of the Navy has trained more than 8500 personnel in these initiatives to date. FY 1989 training included more than 950 people schooled in acquisition streamlining, and more than 960 in the concepts of value engineering. Our experience shows that this training is paying off in terms of efficiency and combat effectiveness. Further, we are educating, in a structured manner, select members of the Navy and Marine Corps commands and senior Department of the Navy executives in the concepts of Quality Focused Management. To date we have trained more than 33,000 people in this area. We are developing follow-on training in the "tools" of Quality Focused Management and how they work.

Conclusion

Today's volunteer professional Sailors and Marines are proud to serve in a revitalized, globally deployed Fleet and Fleet Marine Force, extending the horizons of peace and freedom. All of our men and women, uniformed and civilian alike, are honored to have contributed to the United States strength and resolve that has fostered the peaceful and dramatic events of 1989.

At the same time, we know from experience that uncertainties and dangers remain. The United States is an island nation, dependent upon the

seas for our links to our allies, friends, and trading partners. Our national security will continue to require a strong, reliable strategic deterrent, sea control, and the ability to project power across the world's oceans. As we decide how to structure our defense for the future, we should consider the flexibility and deterrent value of each purchase, favoring those which will have an enduring capacity to respond to the widest variety of likely contingencies.

Our first priority is to retain the professional quality of our people. Their skill and willingness to make personal sacrifices are keys to the success of our investments in technology, force structure, and readiness. They look to us for a fair quality of life, and to provide them with the training and equipment to defend our nation.

The FY 1991 budget will meet our responsibilities to support a proven strategy of deterrence, forward defense, and prompt worldwide crisis response as we enter an era of rapid, and often unpredictable changes in world affairs. The budget reflects a plan that is balanced and affordable. It is worthy of your support.

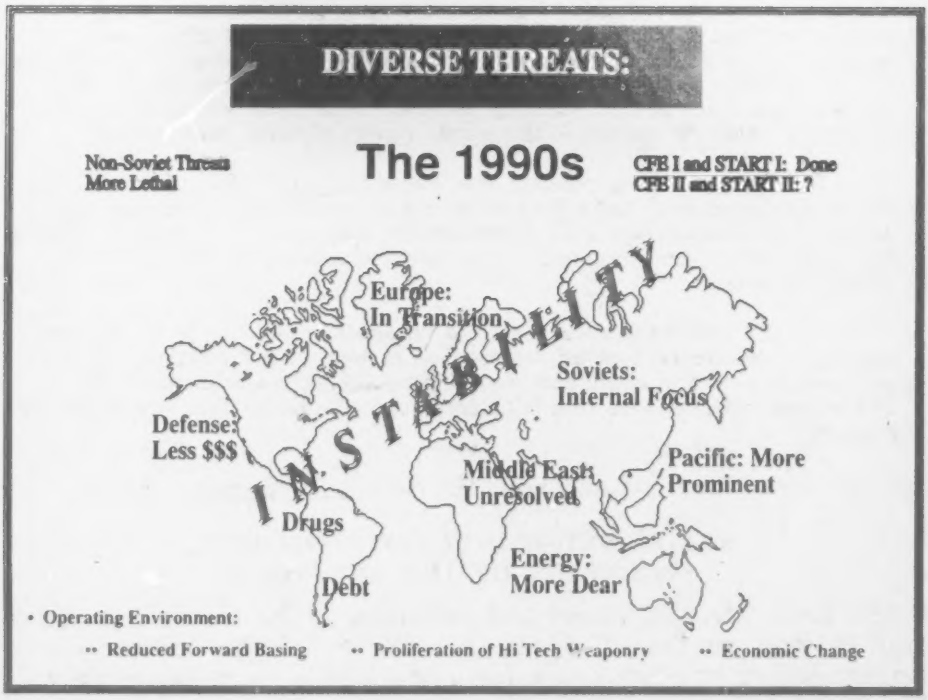
Chairman NUNN. Thank you, Mr. Secretary. Secretary Rice.

STATEMENT OF HON. DONALD B. RICE, SECRETARY OF THE AIR FORCE

Mr. RICE. Mr. Chairman and members of the committee, thank you as well on behalf of the Air Force for the opportunity to appear before you today. We have provided a more extensive written statement and ask that it be entered into the record.

Chairman NUNN. Without objection, your entire statement will be part of the record.

Mr. RICE. I would like to take this opportunity to present to you today something of the current state of our thinking on our vision of the planning for the future Air Force in this changed international environment that you have spoken to in your opening remarks. I believe you have copies of charts at your places, but we will be working with these here at the easel.



We start, of course, with a background of trying to understand this uncertain world that we are facing for the future. We are presuming that CFE and START will be accomplished in the next little while, and that, in fact, by the time we get into the mid-1990s, we may be looking forward to follow-on negotiated reductions beyond the initial CFE and START I accomplishments.

We are certainly looking forward to an operating environment which will necessarily involve a somewhat reduced forward basing and also, as Secretary Garrett mentioned, a proliferation of high tech weaponry around the world.

We are looking at a world situation which is characterized by instability in many parts of the world. As you see, the Soviets, fortunately from our point of view, are much more heavily focused on their internal problems. But there are many other areas around the world that can, in these uncertain times that we are facing, lead to circumstances that might call for the application of U.S. military power.

ENDURING US INTERESTS

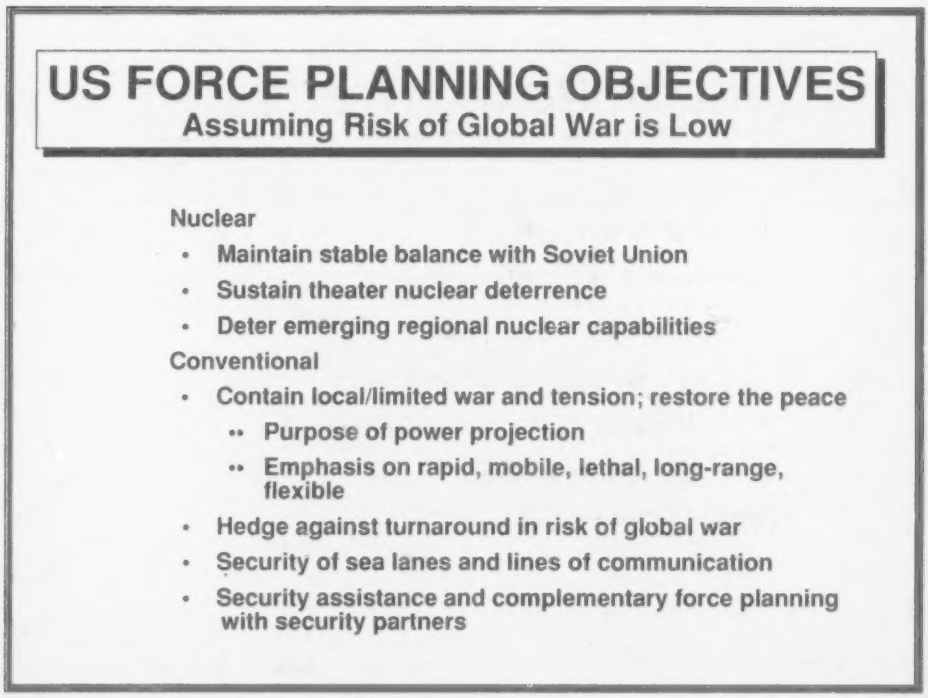
Nuclear deterrence

Safeguard U.S. Interests

- Europe
  - Reduced force levels
- Western Pacific & Asia
- Southwest Asia

Protect Other Vital U.S. Interests

Against that background of uncertainty, we identified in our planning these enduring U.S. interests. Nuclear deterrence, of course, continues to top the list. The intercontinental nuclear threat represents the only threat to the survival of our society, and obviously deterring it becomes a top priority. Beyond that, the United States will continue to have interests in the security of Europe. Equally, we will be planning to support those interests with significantly reduced levels of U.S. military force commitments. We will have a continuing interest in the security and stability of the Western Pacific and Asia, and as well as in Southwest Asia, particularly on the Arabian peninsula, and in particular there, with an eye on the importance of those oil resources to all of the Western World. We will have continuing interests around other parts of the world. This particular point sometimes gets translated colloquially as the United States is a super power and has to be prepared to protect its interests wherever threats to them arise around the world.


US FORCE PLANNING OBJECTIVES
Assuming Risk of Global War is Low
Nuclear
• Maintain stable balance with Soviet Union
• Sustain theater nuclear deterrence
• Deter emerging regional nuclear capabilities
Conventional
• Contain local/limited war and tension; restore the peace
•• Purpose of power projection
•• Emphasis on rapid, mobile, lethal, long-range, flexible
• Hedge against turnaround in risk of global war
• Security of sea lanes and lines of communication
• Security assistance and complementary force planning with security partners

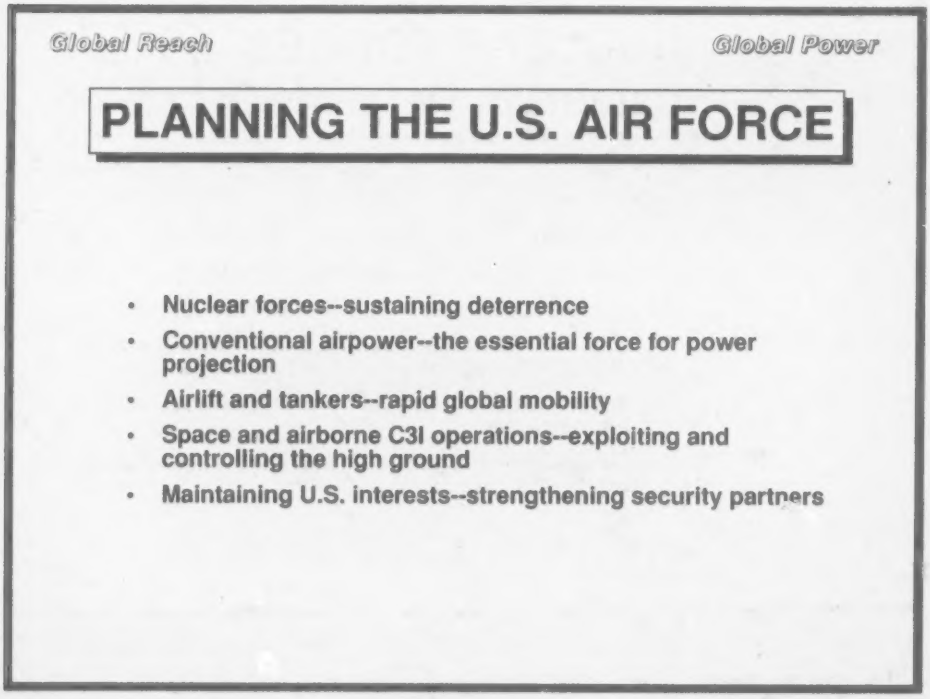
Beyond those, as we move from those broader U.S. interests, the next step in the logic chain is to begin to think of the force planning objectives that need to be met in order to sustain those interests. At the nuclear level, we are concerned about maintaining a stable balance with the Soviet Union over time. We have to sustain theater nuclear deterrence where that continues to be relevant, and we are concerned about keeping an eye on the potential for emerging regional nuclear capabilities that may arise in the future.

In the conventional areas—and all of this now is under the assumption that we are talking about a world situation in which the risk of global war is greatly reduced from that which we have been fighting for in the past—the focus is going to be much more on the capabilities to contain local or limited wars and conditions of tension, and to be able to quickly restore the peace. This really is the fundamental purpose of power projection. This, in some sense, is what it is all about.

We see the kind of capabilities that are going to be needed in the future, albeit for smaller forces, emphasizing the qualities of rapid response, mobility in forces, the capability to reach across long ranges, and to apply forces flexibly, depending upon the nature of the scenario that may arise. All of that has to be attended to while hedging against the possibility of a turnaround in this reduced risk of global war.

We have to quite clearly maintain the security of sea lanes and lines of communication that are important, not only for security interests but for the economic well being of the country. We also

want to put more emphasis on security assistance and complementary force planning with our security partners.


Global Reach
Global Power
PLANNING THE U.S. AIR FORCE
• Nuclear forces--sustaining deterrence
• Conventional airpower--the essential force for power projection
• Airlift and tankers--rapid global mobility
• Space and airborne C3I operations--exploiting and controlling the high ground
• Maintaining U.S. interests--strengthening security partners

Moving from those broad objectives, which we think of as applying across the Department of Defense, to the specifics of how we think about the Air Force, I would just like to emphasize that we want to be thinking about complementary force planning across and among the three services.

We see the Air Force as being able to contribute to deterrence across the range of possible threats, to be able to respond quickly where that is called for, to make a tailored response when that is appropriate, or a much more powerful response when that is the appropriate thing called for. We will plan the future Air Force in these five categories: nuclear forces for sustaining deterrence; conventional air power; thinking about power projection, airlift, and tankers for global mobility; space and airborne C^3I operations for situational awareness; and working with security partners in strengthening broad U.S. interests.

NUCLEAR FORCES
Sustaining Deterrence

INTERCONTINENTAL: arms control sets the limits

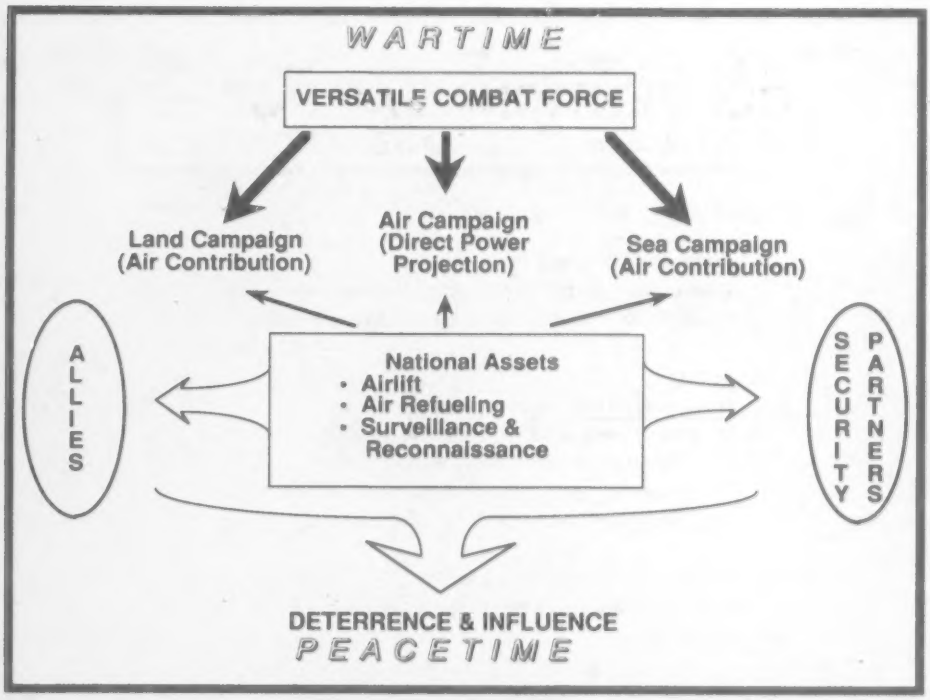
- Reduced offensive balance with Soviet Union
- Ensured ability to deter emerging threats
- Continue TRIAD with emphasis on slow fliers, mobile fast fliers, reduced MIRVs on fixed systems
- As feasible, add more effective defense component to strategic balance

REGIONAL: Air-launched capabilities can sustain extended deterrence and flexible response

In the nuclear area, sustaining deterrence is the key. We obviously expect that arms control is going to set the limits, set the envelope within which strategic nuclear forces should be planned in the future.

We should be headed for a reduced offensive balance with the Soviet Union. We have to be sure we have, as we reduce the forces, that balance with the Soviet Union. We have to be sure that we have the ability to deter any emerging threats in the nuclear area that may arise.

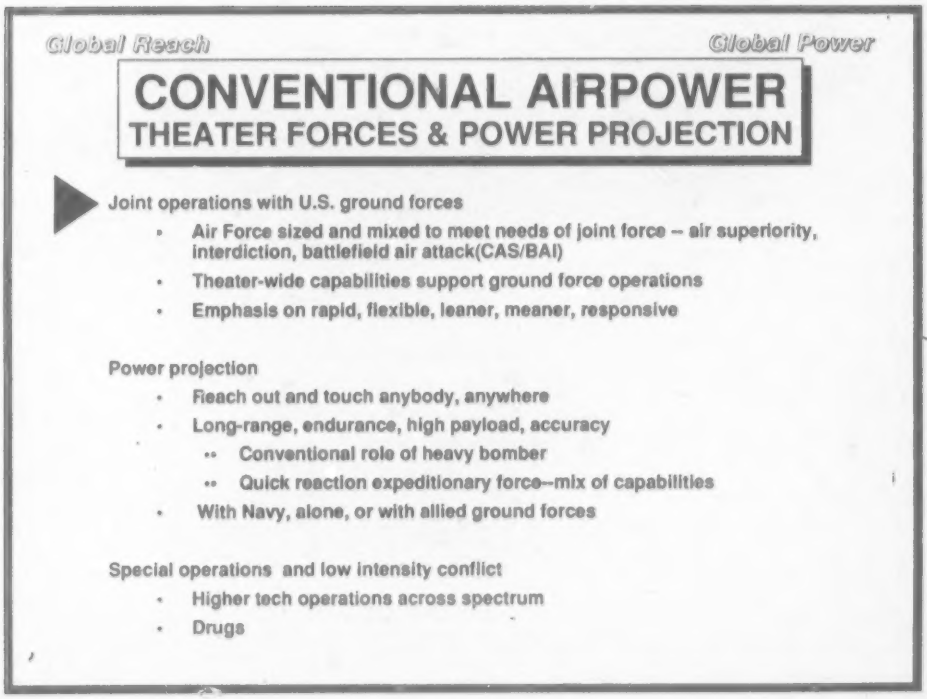
We see, as the forces come down in aggregate, the importance of even more emphasis within the triad on movement toward slow fliers, toward survivability in the fast fliers, and toward reduced MIRVing on the remaining fixed systems. As feasible, we expect to at least look carefully toward the possibility of adding effective defense components to the strategic balance in the future. And, of course, we have to recognize that to the regional area, it may be that air-launched and sea-launched capabilities will be the primary opportunities available to us to maintain the nuclear deterrence in a regional context.



As we move to the conventional area, I would call your attention to this rather busy chart in an effort to try to pull together a more coherent view of the multiple roles that conventional airpower can play.

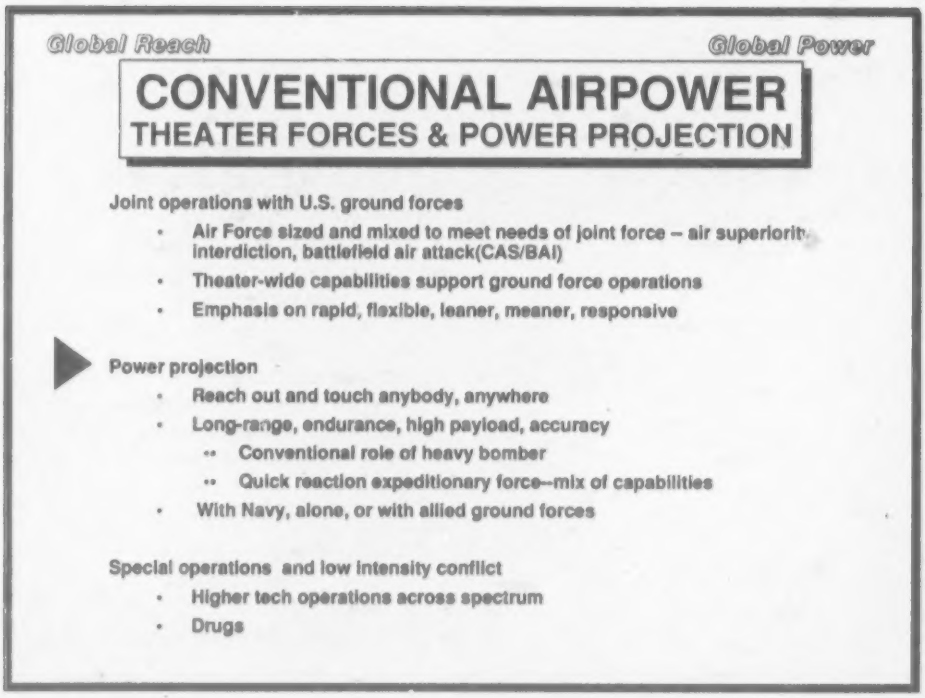
We are used to thinking of the problem in the upper left-hand corner of the chart in the context of a land campaign with the air contribution to that campaign being a principal basis for our planning. But we have to remember that there are also circumstances in which direct power projection may be carried out by air, and circumstances in which the sea forces may be in the lead and the air contribution for that exercise may be the basis upon which the Air Force has to plan.

We also have to recognize more explicitly that the Air Force is responsible for a set of national assets—our airlift capabilities, our air refueling capabilities, and our surveillance and reconnaissance capabilities—which not only contribute to the various kinds of military campaigns that we alluded to a moment ago, but also, in some cases, support our allies and security partners directly, and, all together, contribute to a deterrence and influence in peacetime.


Global Reach
Global Power
CONVENTIONAL AIRPOWER
THEATER FORCES & POWER PROJECTION
Joint operations with U.S. ground forces
• Air Force sized and mixed to meet needs of joint force -- air superiority, interdiction, battlefield air attack(CAS/BAI)
• Theater-wide capabilities support ground force operations
• Emphasis on rapid, flexible, leaner, meaner, responsive
Power projection
• Reach out and touch anybody, anywhere
• Long-range, endurance, high payload, accuracy
•• Conventional role of heavy bomber
•• Quick reaction expeditionary force--mix of capabilities
• With Navy, alone, or with allied ground forces
Special operations and low intensity conflict
• Higher tech operations across spectrum
• Drugs

Now we will take the pieces of that and take conventional airpower first. The major focus has to continue to be on the capabilities required in joint operations with U.S. ground forces. We will be worrying about an Air Force sized and mixed to meet the needs of a joint force in the battlefields of the future, while, at the same time, recognizing that air power offers the theater commander capabilities which he may apply flexibly across the theater, as well as directly, in the context of how the land campaign is going. We see the emphasis there as being on these features that I have already mentioned, which are rapid, flexible, leaner, meaner, and more responsive forces.

I will not take the trouble to brief this chart, but would include it for additional background as we think about the kind of capabilities that are required for each of the missions that air may be called upon to carry out in the context of joint force operations. We need to think our way through from the tasks that are assigned to air to the kinds of quality features that the forces have to have that will carry out those tasks.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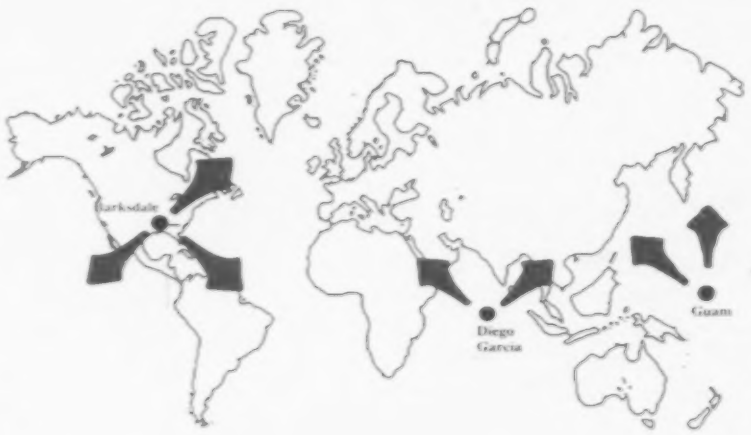
We move on now to the conventional airpower area and joint operations to power projection. Here, the premium will quickly show up to be on long-range, high endurance, high payload capabilities. The conventional role of the heavy bomber becomes prominent in this context, as would new mixes of capabilities that could react quickly in a crisis and go wherever they were required. We need to recognize that these kinds of capabilities may operate in conjunction with the Navy. There are substantial opportunities for complementary planning for roles of Naval and Air Forces in this context, occasionally, possibly even alone and certainly sometimes in context with allied ground forces.

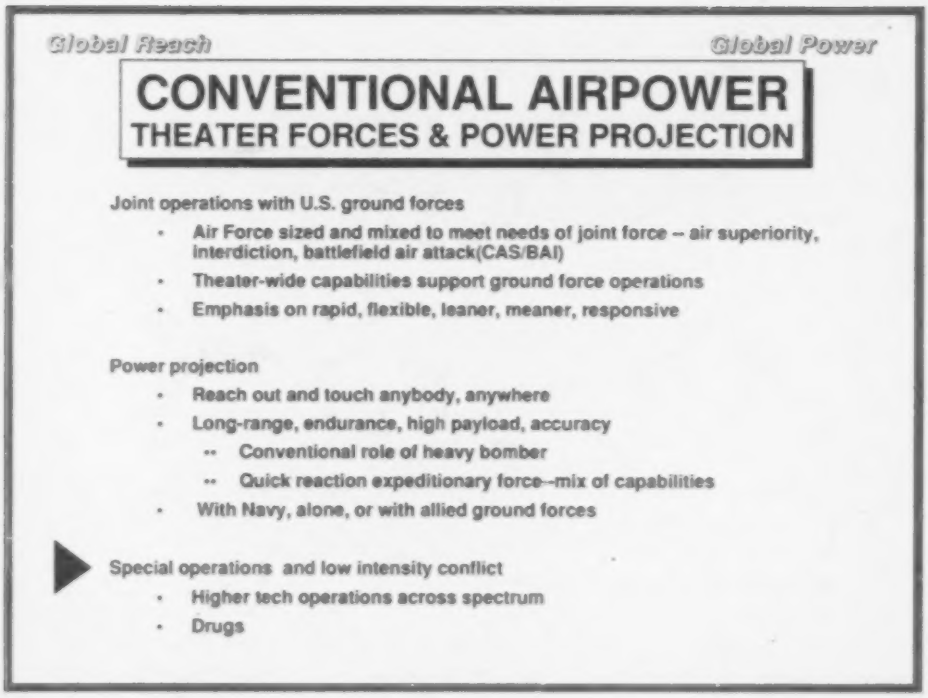
WITH ONE REFUELING AND A LARGE CONVENTIONAL PAYLOAD, LAND-BASED BOMBERS CAN COVER THE ENTIRE GLOBE FROM AS FEW AS THREE SECURE BASES



"It obviously would give us significant conventional capability... the ability to reach from a a handful of bases virtually anyplace on the globe ..."

Richard B. Cheney

This chart just illustrates that the long-range conventional bomber, with a large conventional payload operating from three secure bases can, in fact, cover the entire globe with a single refueling from those bases.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Special operations and low intensity conflict
• Higher tech operations across spectrum
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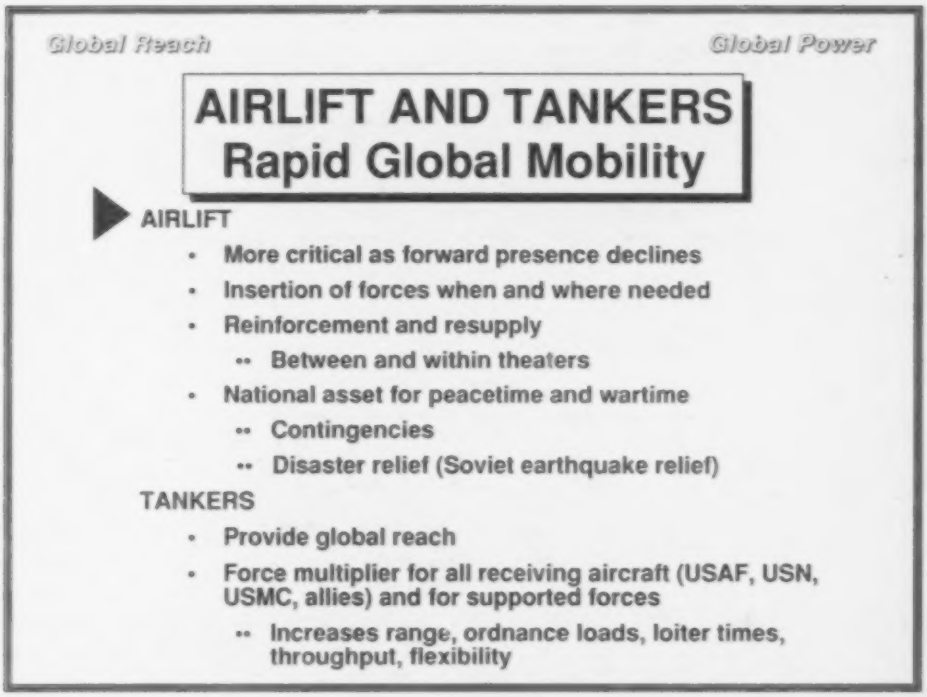
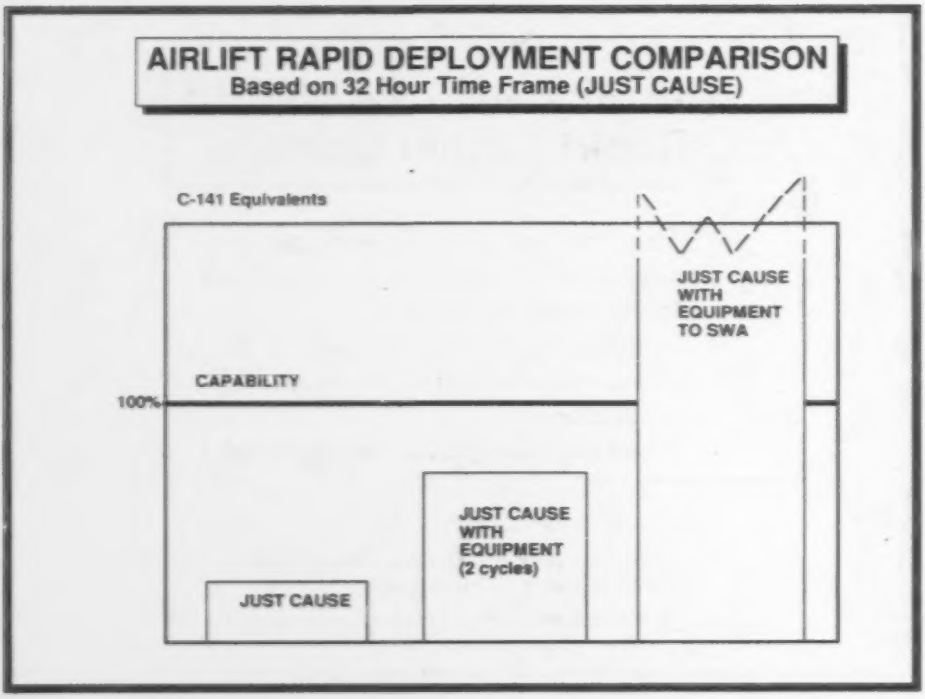
Special operations and low intensity conflict (SO/LIC) is a third area in conventional airpower that we have to plan for. The Air Force is committed to sustaining its component of our special operational forces. It is important in that context to understand, however, that many of the conventional capabilities of air power come into play whenever, or at least in most circumstances in which the SOLIC forces are engaged. We used many of those capabilities in the Panama case—air refueling, transport, surveillance, air cover. All of those kinds of capabilities were employed from our conventional forces in conjunction with special operations activities.


Global Reach
Global Power
AIRLIFT AND TANKERS
Rapid Global Mobility
AIRLIFT
• More critical as forward presence declines
• Insertion of forces when and where needed
• Reinforcement and resupply
•• Between and within theaters
• National asset for peacetime and wartime
•• Contingencies
•• Disaster relief (Soviet earthquake relief)
TANKERS
• Provide global reach
• Force multiplier for all receiving aircraft (USAF, USN, USMC, allies) and for supported forces
•• Increases range, ordnance loads, loiter times, throughput, flexibility

Airlift and tanker forces, as I mentioned before, are a national asset. They provide us, of course, with a capability to insert forces quickly where that is needed. As we move to a world of reduced forward presence, this kind of capability can, in fact, become more important to us as a national asset in peacetime and wartime both. We tend to focus on the kind of military contingencies in which airlift is used. But, in fact, it has extensive roles in peacetime as well.



Here is a quick summary of what went on in the Panama case. We used, for the Panama deployment in that 30 hour window during which the rapid deployment was made to Panama, about 25 percent of our total organic airlift capacity to do that job.

Chairman NUNN. Is that strategic and tactical airlift?

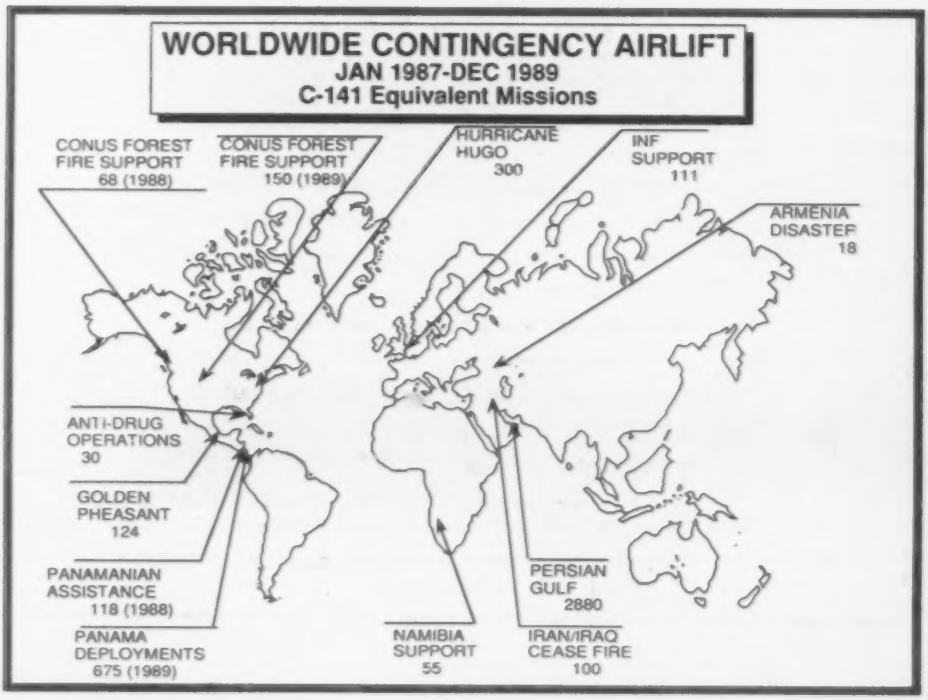
Mr. RICE. That was total organic strategic airlift in this case.

In Panama, we had the majority of the force to be used already in country. A lot of the capability that the forces being airlifted would use was already predeployed in country. Of the light forces we took, they left behind a substantial amount of their equipment because what they needed was already in place in Panama.

If we were to have made a deployment of the forces used in Panama, together with taking all the equipment they needed in that same period of time, it would have taken about three-quarters of our total wartime strategic airlift capacity and each of those aircraft would have had to do two cycles to deliver that quantity of force to Panama. Each airplane would have had to go down, deliver a load, come back to the CONUS, pick up another load, and go down and deliver that load.

If we were to think beyond the Panama case and suppose that we were going a greater distance, say to Southwest Asia, or suppose that we were deploying tactical air forces as well as ground forces, or suppose that those ground forces had to be configured to oppose a more substantial enemy when they got there on the ground, any of those circumstances or any of those conditions could drive the total requirement substantially beyond what we actually have the capability to deploy in such a short time today. We would

either have to settle for a substantially smaller deployment, or we would have to stretch it out over a period of time.



As I mentioned, our airlift forces are, in fact, a national asset that are used in many circumstances other than actual combat conditions. We have summarized on this chart most of the last 3 years' worth of activity. There are some interesting points to note here.

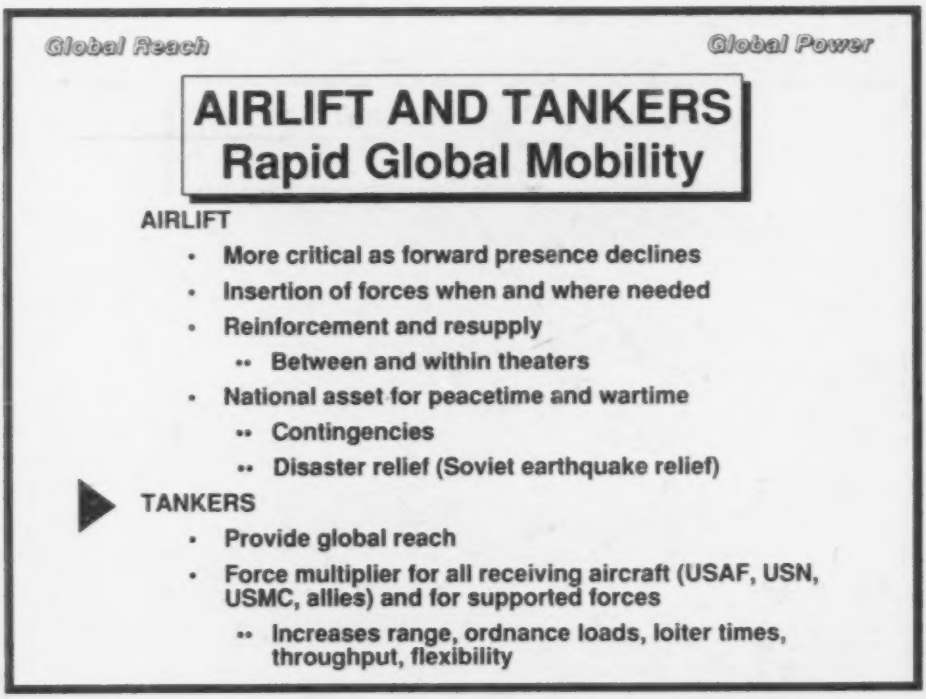
In the Persian Gulf scenario, in 1987 and 1988, of 2,880 missions expressed in C–141 equivalents to support our operations in the Persian Gulf, 120 a month for 24 months.

Regarding Hurricane Hugo, last September, October, and November alone, we accomplished 300 missions in support of the aftermath of Hurricane Hugo.

Last August, 150 missions in 1 month were in support of forest fire fighting in the continental United States.

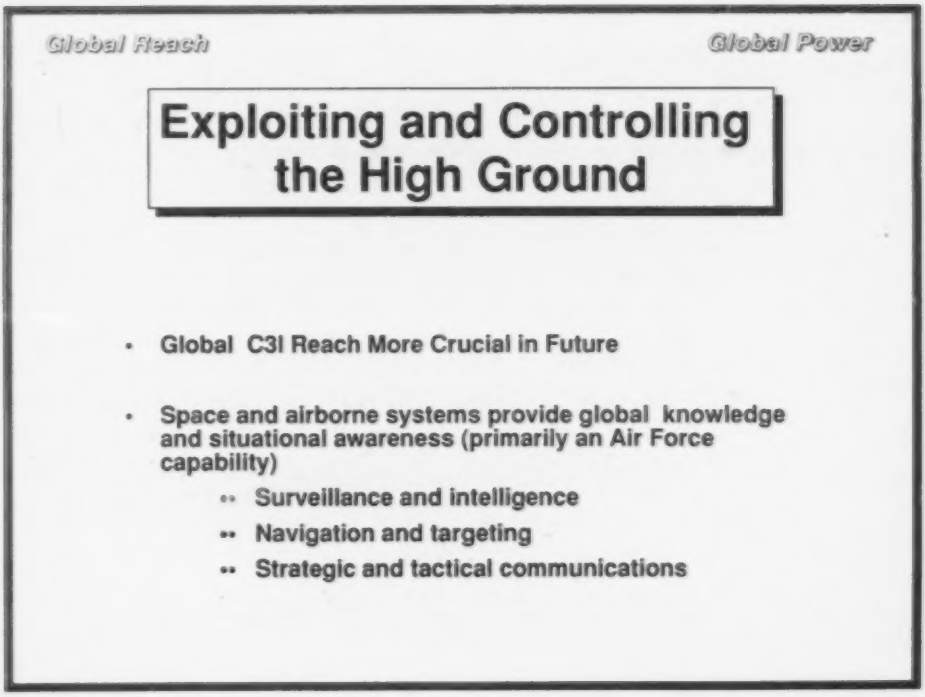
Panama deployments last year, when you add them all up, the reinforcements that were sent down in the spring, the additional deployments before the Just Cause Operation, and Just Cause itself, add up to 675 C–141 equivalents just for that.

You can see some of the other numbers where we have supported antidrug operations or humanitarian assistance around the world.


Global Reach
Global Power
AIRLIFT AND TANKERS
Rapid Global Mobility
AIRLIFT
• More critical as forward presence declines
• Insertion of forces when and where needed
• Reinforcement and resupply
•• Between and within theaters
• National asset for peacetime and wartime
•• Contingencies
•• Disaster relief (Soviet earthquake relief)
TANKERS
• Provide global reach
• Force multiplier for all receiving aircraft (USAF, USN, USMC, allies) and for supported forces
•• Increases range, ordnance loads, loiter times, throughput, flexibility

Turning to our tanker force, it is critical to global reach. It is a force multiplier for all of these services. Our Air Force tanker force refuels not just the Air Force, but the Navy, the Marine Corps, and our allies. So it is a force multiplier as well for these forces.

There are a couple of illustrations. Tanker support was critical to the Persian Gulf operations, to the ability of our carrier force to operate over there and have the range to reach into the gulf where they needed to operate. They were critical for support of AWACS capabilities in that part of the world, and they played a major role in Panama, even though that was a short enough range that the cargo aircraft and transport aircraft could get there in the normal course of things. In order to increase the throughput at Howard Air Force Base, the operating condition for the Just Cause deployment was that they would land, unload, get back in the air, hit a tanker, and come home so that not refueling on the ground in Panama significantly increased the throughput of the aerial ports for that deployment.


Global Reach
Global Power
Exploiting and Controlling the High Ground
• Global C3I Reach More Crucial in Future
• Space and airborne systems provide global knowledge and situational awareness (primarily an Air Force capability)
•• Surveillance and intelligence
•• Navigation and targeting
•• Strategic and tactical communications

In the C³I area, the space and airborne systems provide the global knowledge and situational awareness important to any U.S. operation or, in fact, to many of the operations of our allies and security partners around the world and provide those kind of capabilities in the areas we see listed here. This is a special area where the Air Force serves many other users besides ourselves and ones that we have a special requirement to support.

Global Reach Global Power

MAINTAIN U.S. INTERESTS

- Security assistance
  - Strengthen Democracy, influence events and protect national security interests
  - Plan complementary forces with security partners
  - Exploit USAF training capabilities to strengthen relationships
- Air movements of national influence
  - Berlin Airlift
  - Transport of third party forces (French troops to Chad)
  - Rapid resupply of allies (Israeli airlift of 1973)
- AWACS diplomacy
  - Deployable packages of "surveillance systems"--tankers, AWACS, and JSTARS

In the area of maintaining U.S. interest and working with security partners and allies around the world, we know, of course, that security assistance can strengthen democracy and help influence events and protect our interest in many parts of the world. We have seen that over and over again. We probably have not focused enough on the capabilities of the military services to support that kind of thing, particularly, the Air Force training capabilities are ones we believe can be exploited further.

It is no accident that pilots all around the world, from Prince Bandar of Saudi Arabia, to many of the line pilots in the German Air Force, speak of themselves as half Texan. It is because of where they got their pilot training.

Air movements of national influence, we have already seen some examples of that. We know, of course, about the Berlin airlift and the Israeli airlift in 1973. I think if you look at the data you will find that three quarters or thereabout of all the tonnage that was supplied to Israel in the case of the 1973 war went by sea, but also that the war was over a few days before the first ship arrived. In other words, what we were able to airlift there in a hurry made the difference to the outcome of the war.

We need to think more in the future about ways in which our surveillance capabilities can help calm tension and keep the peace. We have the capability to put together deployable packages that can let any potential adversary know that we are watching every move that they make and that is the kind of capability we need to focus on more in the future.

SINCE 1980, THE USAF HAS BEEN CALLED UPON TO ACT AT THE NATION'S BEHEST OVER 150 TIMES

Show of Force/Presence	45
Air Movements of National Influence	23
Humanitarian Airlift/Medevac	66
Combat Operations	3
Other	6

There are some summary statistics shown here since 1980. These are numbers of areas, over 150 times that we have been able to count, where the Air Force has been called upon to act at the Nation's behest. It breaks down into the kind of categories you see here. The three combat operations are identified separately, but there are many other circumstances in which air power is used in the Nation's interest.

National Security Needs & The U.S. Air Force

- **Build A Force With Qualities Necessary to Underwrite A Coherent Strategy**
  - High quality, modern forces, ready--but smaller
  - Not just quality systems--Quality people are critical
  - Flexible, deployable forces with reach to rapidly meet shifting priorities
  - Advanced Technology
    - Force multiplier
    - Avoid strategic surprise
  - Base for expansion if necessary
- **The Specifics of Force Planning...**

Now, as we turn from those kind of planning assumptions and think about the qualities and capabilities that are required for the future, we also recognize there are some cross-cutting qualities that we have to keep in mind.

We are going to be building a smaller Air Force. There are no two ways about that. We understand that reality, but we do intend to insist that the resulting Air Force be one of high quality and be one of modern cutting-edge capability. That means quality people as well as quality systems, flexible, deployable forces that can rapidly go where they are needed. Drawing on advanced technology, not just because it is a force multiplier, but because it is the best base for expansion and is the best way to assure that we avoid strategic surprise.

So, we are going to go on now within the Department to the specifics of planning a force that fits within realistic budgets for the out-years in accord with the principles and the approaches that I have just been describing. That will be the main task of the development of our program objective memorandum, which is due to the Secretary of Defense by the end of April.

Air Force Efficiencies

Total Costs and Savings

($ in Millions)

	COSTS FY1990	COSTS FY1991	TOTAL COSTS FY1990-1995	SAVINGS* FY1990-1995	ANNUAL SAVINGS AFTER FY1995
Base Closure I	206	426	1,400	-2,600	-410
DMR	0	93	450	-11,400	-2,700
Base Closure II	11	111	550	-2,400	-560
TOTAL**	217	619	2,260	-16,000	-3,500

* Includes one-time/recurring savings & the projected receipts from land sales.

** Adjustment to avoid double counting

As we are carrying out the rethinking about the basis for the future Air Force and the rethinking of the makeup of our force structure, we are also working hard to make the Air Force leaner, truly leaner, as well as meaner, working hard on increased efficiencies.

Summarized here for you are the results from the Base Closure Commission. In the top row of this table you can see the Air Force piece of that summarized there. The net savings in the 1990 to 1995 period are $1.2 billion, with fairly significant front-end costs to be paid to achieve those savings. Nonetheless, significant net savings of $400 plus million a year, or about two thirds of the total, about 60 to 65 percent of the total, come out of the Base Closure Commission.

In the defense management review, which the Secretary announced the results of in January, the Air Force piece of that is net savings of about $10.9 billion over the periods of 1990 to 1995, and steady state savings of about $2.7 billion after we get out to 1995. All of that, of course, comes from the previous program that has been laid into the Department.

Our base closure II package shows even more substantial savings possible there than came from the Base Closure Commission exercise, at least for the Air Force. There are savings of about $1.4 billion over the 5-year period, net, with substantially smaller front-end investments to be paid to get those savings, then $560 million a year, which is at least getting in the ball park for rivaling the results that came from the Base Closure Commission exercise.

The budget we have submitted, Mr. Chairman, for fiscal year 1991, will bring us, in the case of the Air Force, to a 23 percent

reduction in real terms from the peak Air Force budget of fiscal year 1985 and a 29 percent reduction in our investment funding from the peak in 1985. We will have reduced, with the budget proposals, 78,000 military personnel in the Air Force from the peak level which occurred in about fiscal year 1986. Forty-one thousand of those reductions will occur in fiscal years 1990 and 1991.

The Air Force is moving forward on the need to reduce forces. We are taking out 26,000 military personnel in fiscal year 1990, and are projected in the budget to take another 15,000 beyond that in fiscal year 1991.

Mr. Chairman, we in the Air Force are certainly looking forward to working with you and the other committees of Congress as we proceed to design a future Air Force that accords with the security needs of the country in the changed environment that we are facing. We appreciate the chance to give you at least a status report on our progress in that exercise and our thinking about where we are going at this point.

[The prepared statement of Mr. Rice follows:]

STATEMENT OF: THE HONORABLE DONALD B. RICE
Secretary of the Air Force

SUBJECT: FY 91 AIR FORCE POSTURE

MR CHAIRMAN AND MEMBERS OF THE COMMITTEE

In light of all the changes taking place in the world, we must revise the basis for planning U.S. military capability. As we do that, it is useful to remind ourselves that the basic mission of the United States Air Force remains to organize, train, equip, provide, and support aerospace forces to deter aggression and, if necessary, defeat aggressors across the spectrum of conflict. This supports the most fundamental national security objective of the United States, the preservation of our free and independent nation with its institutions and values intact.

A number of dynamic and rapidly changing factors are creating a significantly different world environment as we approach the 21st Century. A prominent characteristic of the world in the 1990s and beyond may well be instability. While the Soviets appear to be shifting their focus toward addressing long-standing internal economic, political, and societal problems, they will retain a significant military capability, both nuclear and conventional. Despite some initial reductions, Soviet military capabilities built up during 20 years of relentless growth in Soviet defense spending still remain. Soviet policy declarations reflect changes in intentions, but contain no guarantee of irreversibility.

We will also face security challenges in other, even less predictable areas around the world. The United States has important security objectives in the developing world: promoting freedom and democracy; protecting key strategic resources, choke points, and overflight areas; nurturing defense commitments and security relationships; and stopping the flow of drugs into our nation. The continued spread of sophisticated weapons--nuclear weapons, ballistic missiles,

advanced tactical aircraft, modern tanks, and cruise missiles--enable a wide variety of states to pose potentially dangerous threats to U.S. security or that of our security partners.

The combination of continued threats to America's national security interests, the proliferation of sophisticated weapons, and reduced numbers of overseas U.S. forces in this unstable world presents new challenges for the U.S. military. The likelihood that the U.S. military will be called upon at some time and place to defend U.S. interests in a lethal environment is high--but now, more than ever, the time and place are difficult to predict.

In structuring our forces to support the national military strategy, we can neither adopt the unrealistic assumption that nothing has changed, nor the historically naive presumption that everything has changed. Indeed, the heartening changes we see in the Soviet Union and Eastern Europe reflect the success of our policies. The national military strategy continues to emphasize deterrence--combining forward defense and flexible response to ensure that no adversary could ever expect to gain by attacking the United States or its allies. This strategy supports enduring national security objectives, while providing for a coherent, cost-effective development of military forces.

The maintenance of a stable nuclear balance *vis a vis* the Soviet Union must remain paramount--only Soviet nuclear forces threaten our national survival. Conventional capabilities that provide a rapid, tailored response with a capability to apply force selectively, anywhere on the globe, will remain essential to keep local conflicts and tensions from spreading and threatening U.S. interests and allies. U.S. forces must be capable of hitting hard, precisely, and terminating conflict quickly in order to deter aggression or the threat of it. The requirement for these capabilities is not new, but the balance among them is shifting--reduced emphasis on combating heavy Soviet conventional forces and more attention to other global contingencies.

Given the unpredictability of the future, our force planning must call for an increased emphasis on force projection capabilities--a shift toward even more flexible, rapidly responding, precise, lethal forces with global reach. The Air Force's focus will be on emphasizing those inherent characteristics of airpower--speed, range, flexibility, precision, and lethality--which best support U.S. national security in the uncertain world of the 1990s and beyond. Our planning will be conducted in complementary fashion with that of the Army and Navy.

Adapting the Air Force to the changing world environment has forced some difficult choices in the balance of investments in four major areas: readiness, modernization, combat sustainability, and force structure. The Air Force of the future will feature high readiness forces that emphasize well-trained, quality personnel and high-quality systems. To afford these priorities, we will be forced to make painful reductions in force structure and sustainability. In relative terms, the Air Force will be more CONUS-based, with a smaller and more efficient base structure at home and abroad. It will be more reliant on Reserve components.

While sustaining stable, nuclear deterrence, the emerging Air Force will provide unmatched capabilities in extending U.S. global reach and the ability to respond rapidly to fast developing conventional crises. Missiles and bombers will continue to support nuclear deterrence; bombers, the most flexible leg of the nuclear Triad, will concurrently provide highly responsive conventional power projection capabilities world-wide. Our rapidly deployable tactical airpower can provide air assets for combined, joint, or independent operations with U.S./allied forces. Airlift provides timely global reach to all the Services; tankers enhance not only mobility, but the combat potential of the Services and our allies. Space assets provide communications and information for situational awareness across the planet.

The United States has become an aerospace nation and aerospace power will become increasingly important in the decades to come. Aerospace represents the cutting edge of advanced technology and a vital element of our economic fabric.

The future Air Force will exploit those capabilities to maintain technological superiority through a broad, balanced science and technology program that strengthens the industrial base and forms the foundation of our future military capability. Prudent investment in advanced technology will enable the United States to avoid strategic surprise should the Soviets revert to a more hostile stance and provide the capabilities needed to intervene decisively with minimal casualties against potential well-equipped foes.

Today's Air Force is more capable than at any other time in history. Nevertheless, five consecutive years of defense budget reductions and the prospect for further substantial cuts will constrain our future capability. The proposed Air Force budget for FY 91 is reduced 23.3 percent in real terms from the FY 85 peak, with 6.6 percent occurring in the two years of FY 90 and FY 91. The Air Force investment account (including RDT&E and MILCON) has been cut 29 percent from FY 85 to FY 91, with 7.5 percent of that in the FY 90 and FY 91 years. Defense Management Review (DMR) initiatives will help offset the impact of declining budgets by reducing the cost of modernizing, operating, and maintaining the Air Force. DMR is already expected to provide an estimated $10.9 billion in savings for the Air Force through FY 95 from streamlining acquisition activities and from logistical, operational, and training efficiencies.

The additional Air Force base closure candidates announced for study would provide an estimated $1.8 billion of net savings through FY 95, more than the total Base Closure Commission (BCC) results for the same time period, and $560.0 million in annual savings after FY 95, more than 80 percent of the total BCC results.

To maintain essential capabilities, we will seek to leverage all our investments. First, to maximize the readiness of existing forces, we will continue to focus on spares, support equipment, munitions, and training programs--the same things that have allowed us to generate almost 80 percent more tactical combat

sorties than we could in 1980 and which have put the readiness of our bomber force at an all-time high. Second, we will improve existing systems with cost-effective modifications and upgrades. Examples include B-1B SRAM II integration, KC-135 re-engining, adding multipoint refueling capabilities to the KC-10, and F-16 engine upgrades, all of which provide significant increases in performance and durability for the existing force structure. Third, we will leverage our investment by developing new systems, taking advantage of U.S. technological superiority to meet long-term challenges. The B-2, C-17, and Advanced Tactical Fighter (ATF) are examples of this approach. We cannot afford to abandon current development efforts which are required to meet our national security objectives of the coming decades.

Our People

Recruiting, retaining, motivating, and training quality people will challenge the Air Force throughout the new decade. The value of our people is intrinsic to all of our readiness, modernization, combat sustainability, and force structure decisions. Because fiscal realities have forced us to make concessions in the size and composition of our force, we must ensure that we continue to recruit and retain the best and the brightest. The Air Force depends on the quality and commitment of the Active, Guard, Reserve, and civilian men and women who guarantee our national security.

The Air Force continues to meet successfully its enlisted and line officer recruiting goals, for both quality and quantity. However, we continue to experience major difficulty retaining pilots and physicians. In these changing times, we cannot relax our efforts to provide a competitive compensation package for all of our military personnel. This includes adequate pay and allowances, satisfactory government quarters or housing allowances, full permanent change-of-station reimbursements, quality health care, and other quality of life benefits.

Over the past years, both the Air Force and Congress have worked on possible solutions to the pilot retention problem. The FY 90 Authorization Act implemented the Aviation Career Improvement Act of 1989, a comprehensive package which addresses this issue for the Air Force and the Navy. The Air Force welcomes the majority of the provisions in the act and is presently assessing their impact on retention.

Congressional action and the FY 90 Gramm-Rudman-Hollings sequester have forced the Air Force to reduce overall end strength without an associated adjustment to our mission, resulting in undermanning in field units. Furthermore, since we could not meet the Gramm-Rudman targets using only manpower reductions, other money-saving measures have been implemented. The programmed military end strengths for FY 90 and FY 91 are now 567,900 and 530,000, respectively. This FY 91 end strength will be 78,000 lower than FY 86, 41,000 of that in FY 90 and FY 91. The programmed civilian end strengths for FY 90 and FY 91 are 262,354 and 258,741, respectively.

Readiness and Sustainability

Building and maintaining readiness and combat sustainability are ongoing processes, always undergoing evaluation and requiring a prudent balance among various spending areas to achieve realistic goals. We place a high priority on improving the combat readiness, as well as the staying power, of our forces. With the improved quality and realism of operational training programs such as Red Flag, we continue to increase the readiness of our operational crews. Major exercises and deployments of Active, Guard, and Reserve units to overseas operating bases provide operations and maintenance specialists realistic exercises in the environment in which they would fight. Improved training and more realistic experience continue to produce safety records considerably better than those achieved in the mid-to-late 1970s. Consistent with our strategy, we configure Reserve Component forces to ensure their effective engagement in global conflict

within days to weeks from the development of a crisis. Active duty forces, of course, provide necessary combat capability day-to-day.

To provide sufficient combat sustainability, adequate spares, supplies, munitions, and fuel must be available to support expected operation tempos and probable periods of conflict. Adequate stocks, support infrastructure, war reserve material, and the industrial base must be prepared during peacetime. We continue to strive to improve industrial base capabilities, but this effort is constrained by budgetary considerations. The Air Force continues to work with all Department of Defense (DOD) and national agencies to offset the effect of budget reductions. Whenever possible, our acquisition policy provides incentives for the industrial base to sustain the logistics support of our forces. The Air Force will continue to strive to maintain peacetime spare parts stocks, procure adequate levels of wartime spares and equipment, perform critical aircraft modifications, improve the industrial base, and increase our sortie generation capability within the constraints of fiscal policy.

Strategic Forces

Strategic forces provide nuclear deterrence, worldwide conventional power projection, and strategic defense across all levels of conflict. While the prospects for a Strategic Arms Reduction Talks (START) agreement are high, the Soviets have continued unabated a modernization of all components of their strategic offensive forces that could be retained under START limits. Therefore, we must structure our forces to be adaptable to the probable constraints and needs of the post-START era while maintaining deterrence in the face of evolving capabilities that continue to threaten our existence. Given this requirement, we must continue the phased modernization program laid out by the President for U.S. strategic forces.

In practice, an enemy's belief in our deterrent capabilities is based on his perception that we have both the forces and the will to carry out a devastating

retaliatory strike. The strategic Triad of manned bombers, intercontinental ballistic missiles (ICBM), and sea-launched ballistic missiles (SLBM) is the foundation of this perception. Individually, no leg of the Triad represents an ultimate capability or deterrent solution; collectively, they complicate enemy attack planning, denying any chance of a successful debilitating strike. The Triad provides a high confidence barrier against technological breakthroughs, system failures, communication limitations, and unforeseeable "fog of war" factors. In short, the Triad ensures sufficient U.S. forces survive an enemy attack to successfully retaliate against an aggressor, thus effectively deterring a nuclear attack.

ICBMs are the most responsive element of the strategic Triad, combining accuracy and high daily alert rates to hold time-urgent, hardened, Soviet warfighting assets at risk. The foundation of our ICBM modernization programs is the Peacekeeper missile. Full operational capability for the first 50 Peacekeeper missiles in existing silos was achieved on schedule in December 1988, and the FY 91 Budget continues development of the rail garrison basing mode. Current plans are to deploy the 50 operational Peacekeepers at 7 garrison locations. Deploying the Peacekeeper day-to-day in secure areas and dispersing it when in the national interest to do so will diversify our strategic forces, while its survivability will enhance deterrence and promote stability. The development of the Small ICBM (SICBM) will continue toward an operational deployment in the late 1990s. This missile's survivability and inherent operational flexibility make it the obvious next step in enhancing strategic stability and deterring nuclear war.

Bomber modernization, through deployment of the B-1B and B-2 penetrating bombers and transition of the B-52H force to a standoff cruise missile role, will counter existing and projected Soviet air defense improvements. Each aircraft has an essential and diverse mission. Cruise missiles launched from outside defended areas, B-1Bs penetrating at low altitude and high speed, and B-2s penetrating at high and low altitudes will severely stress the Soviet air defense system.

The final B-1B was delivered ahead of schedule in April 1988. Since then, flight test activities have revealed deficiencies in the basic design of the defensive avionics system. The Air Force is proceeding with a two-tiered recovery plan which will correct these deficiencies and field a stand-alone radar warning receiver.

The contributions of the bomber force--and the B-2 in particular--to the Triad will increase in the future. Without the B-2, the bomber force would atrophy, thus depriving us of its unique attributes. Bombers enhance the survivability of land-based strategic forces and offer a unique capability not shared by current ICBM or SLBM forces for signalling U.S. resolve in a crisis. The B-2 provides the best combination of accuracy and weapon yield of any current or projected system in the Triad. Together with greatly increased "look before shoot" capability compared to other bombers, this makes the B-2 the most efficient and effective system for dealing with both very hard and area targets. Manned bombers are regarded by both the United States and Soviet Union as systems that enhance the stability of the strategic balance, because they provide an assured retaliatory capability without posing a first-strike threat. Due to the bomber counting rule under START, the penetrating bomber provides the means to assure adequate target coverage--thus the B-2 is the key to long-term military sufficiency under START and a bulwark of the current U.S. negotiating position. The B-2's capabilities will ensure the continued viability of a balanced nuclear Triad for decades to come.

The B-2 program is currently in its flight test phase. The first aircraft flew in July 1989, and the test plan has continued on schedule. We have completed the first phase of the flight test program, logging more than 31 flight hours on eight test flights. The test program has been an unqualified success to date. The development cost of the B-2 has been substantially higher than the B-1B, reflecting the major technological advances involved; however, the production cost is expected to be only modestly higher, in constant dollars. To give this cost issue some perspective, the contribution of the B-2 to the strategic Triad should be considered.

In terms of acquisition cost per generated warhead, the B-2 cost is similar to the B-1B.

Cost comparisons between elements of the nuclear Triad, however, cannot account for the unique flexibility for power projection offered by the manned bomber. Long-range bombers, staging from secure bases, can reach any location on the globe within hours, employing only a single aerial refueling. These bombers can deliver dramatic firepower with precision accuracy. In a notional Southwest Asia scenario, a squadron of conventional bombers could be projecting power and enhancing presence in a very short time (and at lower cost relative to other options). The B-2's survivability and range will enable it to operate with fewer supporting aircraft (defense suppression, air superiority, etc.) than required for a strike package using non-stealth aircraft.

Tactical Forces

With the continued support of Congress, our tactical air forces must remain a highly capable, modern, and ready force. They must be ready to respond to technologically improved threats, not only in Europe, but anywhere on the globe. To meet this challenge in an era of constrained funding, we will begin reducing our fighter force structure in FY 91. We will partially offset the reduced force structure by modifying current inventory aircraft to increase capability, maintainability, and service life. We are also developing future weapon systems with a close eye on procurement, operating, and support costs to provide an effective but affordable force. Through modification programs and cost control measures such as these, we are leveraging our investments, enabling us to field a ready and capable tactical force.

Two high-priority programs--ATF and the Advanced Medium-Range Air-to-Air Missile (AMRAAM)--are required to maintain a technological lead in order to achieve air superiority. Since the advent of modern airpower, no major surface

operation has ever succeeded without air superiority. The ATF will incorporate low-observable technology, supersonic cruise and maneuver, and advanced avionics to yield lethality and survivability required to meet future threat systems. The ATF's planned initial operational capability (IOC) is in the late 1990s. The AMRAAM, now in low-rate production, is undergoing an extensive test program. The test program is scheduled for completion in time to support a full-rate production decision later this year. This missile with improved resistance to electronic countermeasures (ECM) will provide a launch-and-maneuver, multiple-kills-per-engagement capability necessary to combat advanced threats while sustaining minimal losses.

Modernization efforts continue in ground attack forces as well. The F-15E reached IOC in 1989, an important step toward filling urgently required all-weather deep penetration capability. The LANTIRN navigation/targeting system also reached IOC in 1989, enabling F-15Es and F-16C/Ds to conduct night surface attack interdiction missions. This capability will deny any adversary's forces the sanctuary of the night, reduce attrition, and increase the effectiveness of our surface attack operations.

The Air Force also actively supports the Navy A-12 development program and has programmed funds for the development and production of an Air Force variant, the Advanced Tactical Aircraft (ATA). Projected target and threat characteristics by the year 2000 dictate our requirement for a greatly improved surface attack aircraft. The ATA will satisfy this need.

The Air Force has requested funds to procure 150 multi-role F-16s in FY 91. This aircraft provides a solid example of the strength of the Air Force's approach to building combat capability: its mission-capable rate is above 85 percent, and the F-16s now being procured will enjoy night/under-the-weather attack and all-weather air superiority capabilities.

The Air Force places a high priority on close air support/battlefield air interdiction (CAS/BAI). The A-7D and A-10A, are unable to meet the Joint Force Commanders' requirement for CAS/BAI in the mid 1990s and beyond. Therefore, we have funded interim programs to modify 225 A-10s and 146 Block 30 F-16s with improvements that enhance their CAS/BAI capability. However, these are interim solutions until a follow-on aircraft with the flexibility and capability to conduct battlefield air attack over the modern battlefield is selected and fielded.

Mobility Forces

Strategic airlift provides the United States with the capability to project influence and forces quickly and decisively throughout the world, a capability of increasing importance as we reduce our forward deployment posture and global instability and uncertainty remain. Their ability to carry troops and/or cargo, air refuel, and airland or airdrop their loads reduces dependence on forward-basing, while retaining the ability to meet almost any military or civil requirement. Clearly strategic airlift is a national asset whether employed in support of military operations such as Just Cause in Panama, or as part of humanitarian efforts providing relief following natural disasters such as Hurricane Hugo.

The effective and efficient movement of forces requires achieving a balance between airlift, sealift, and prepositioning. Given the magnitude of force withdrawals under consideration (in several areas, not just Europe) and the scope of the uncertainty we face in unpredictable areas around the world, airlift and sealift must be viewed as complementary. While increased warning time for a European conflict may allow us to use more sealift to return forces to Europe, it does not obviate the need for airlift. Increased warning time does not necessarily produce a corresponding increase in reaction time. As uncertainty and instability around the world increase, the ability to respond quickly becomes even more important.

Airlift provides vital speed, flexibility, and timeliness. When an operation needs to be carried out quickly--as was determined necessary for Just Cause--airlift will be the key player. Yet we cannot be complacent that our ability to execute quickly to Panama tells the whole story. For Just Cause we had a highly developed infrastructure in theater, over half the forces in place, deploying forces that travelled lightly--even for light forces--and a destination that was relatively close. Next time, the challenge may be tougher, but the requirement for timeliness will be just as great. The 1973 Arab-Israeli War provides an example of the importance of timeliness, particularly for our more uncertain future world. Sealift delivered 74 percent of the total resupply of Israel--but the war was over five days before the first ship arrived. The key to airlift's critical contribution to the Israeli success was not Millions of Ton Miles/Day, but delivery of key assets when they were critical to the fight.

The C-17 is vital to modernizing and expanding the nation's airlift capabilities. The C-17 will assume the responsibility as our primary strategic airlift aircraft when fully operational--a role currently filled by the aging C-141, which is approaching the end of its service life. The C-17 offers much lower support costs than either the C-141 or C-5 and combines the advantages of a strategic airlifter--range, speed, aerial refueling, and payload--with those of a tactical airlifter--short field landing and take-off capability, survivability, maneuverability in the air and on the ground, and precise, prompt delivery. The advantages this affords can be seen using 1983 airlift support missions to Honduras as an example. Two C-5s and 32 C-141s delivered cargo to the only airfield in the country capable of supporting these strategic airlifters and an additional 232 C-130 sorties were needed to transfer this material to smaller airfields closer to employment locations. Using the C-17 to deliver cargo from the United States directly to the smaller airfields would only have required 19 aircraft.

Our tanker fleet will also become of increased importance to support the global reach and combat capability of all the Services. Air Force tankers provide

the capability to refuel Air Force, Navy, Marine, and many allied aircraft leveraging all Service capabilities on land, sea, and in the air. Aerial refueling increases the range, loiter times, and ordnance capabilities of receiving aircraft--true force multiplication. To bolster our refueling capabilities, we are continuing to re-engine KC-135s (which enhances KC-135 fuel offload potential and reduces annual operating costs) and are adding multipoint capabilities (that is, the capability to refuel more than one aircraft at the same time) to elements of the KC-10 fleet. Multipoint refueling multiplies the effectiveness of tankers providing assistance to the Navy and Marine Corps as well as our allies.

Space

U.S. military space capabilities contribute to our deterrence strategy in a variety of ways. Satellite early warning capabilities warn of Soviet space and missile launches, prevent surprise attack, and allow the United States to determine the appropriate response to Soviet actions. Space surveillance systems track, categorize, and assess the capabilities of all space objects. Space-based communication systems, such as Air Force Satellite Communications (AFSATCOM), the Defense Satellite Communications System (DSCS), and in the future, Milstar, ensure effective, rapid communications with U.S. strategic and tactical forces throughout the world. Other capabilities like the Global Positioning System (GPS) and Defense Meteorological Satellite Program (DMSP) enhance the effectiveness of our forces by providing navigation and environmental monitoring information, respectively. Finally, space systems also contribute to arms control by providing monitoring capabilities that enable us to confidently enter into verifiable agreements.

The U.S. satellite payload schedule was delayed in the late 1980s due to the Shuttle and Titan accidents. This on-orbit capability in space is essential to our national security. The Air Force scheduled recovery launch rate peaks at approximately 25 in 1990, but we will not be able to launch all of the backlog of

satellites until 1992.

The Advanced Launch System (ALS), a joint DOD-NASA program, had been identified as our future national space launch capability. Recent fiscal restructuring during the FY 91 Budget development required the Air Force to defer the initiation of FSD of an ALS vehicle, but technology development will continue under the Advanced Launch Technology program, intended to transfer technology to the existing boosters and lay the basis for future development of a new vehicle.

The National Aero-Space Plane (NASP) is also a joint DOD-NASA undertaking. The Air Force has program management responsibilities for the NASP. The program will develop the technologies needed to allow a decision on whether to develop a classic X-vehicle that would demonstrate the capability of single-stage-to-orbit with horizontal takeoff and landing and long-range hypersonic cruise.

Conclusion

The FY 91 Budget marks a year of transition. The Air Force has developed a program that will sustain a high level of readiness while permitting us to continue priority modernization programs. Overall, the FY 91 Budget will also position the Air Force to realize significant future cost savings through post-FY 91 reductions in force structure and forward basing. But the Air Force's focus is on evolving U.S. national security needs--not simply on fiscal constraints, though they too are real. The Air Force is building a force with agile and responsive capabilities tailored for the world we see unfolding before us. We will continue developing these capabilities in the 1992 POM and beyond, planning the "pieces" of our Air Force to complement each other and the forces of the other Services, while creating optimum power under a wide variety of possible circumstances.

The Air Force possesses unique capabilities which must be harnessed, along with those of the other Services, to address the exigencies of evolving national security policy. We see a window of opportunity to make ourselves more useful to the Nation. With the Air Force's global reach and rapid reaction, we are prepared to meet the challenges of the future.

Chairman NUNN. Thank you, Secretary Rice. I am going to call on Senator Warner to lead off with the questioning. I will have to step out for a few minutes and then will be back. Senator Warner and then Senator Exon.

Senator WARNER. Mr. Chairman, I wonder if you could remain for the first question. It is a subject that you were interested in and that you discussed with me, and that is the 190,000 troop level figure established by the President, together with others, and the 30,000 to be located elsewhere, other than in Central Europe on the flanks of NATO. My question to Secretary Stone is this. In the process of devising that formula, were you or other service Secretaries consulted?

Mr. STONE. Senator, indeed. We discussed the level of troop reductions in Europe with Secretary Cheney throughout the early part of this year in anticipation of the President's agreement in the latter part of last year. Obviously, those conversations took place, primarily, against two criteria: one, the threat that we felt we had to continue to be able to meet; and two, the pace of the reductions that the President chose to try to negotiate with the Soviet Union.

Senator WARNER. Over what period of time do you think those reductions are feasible, from a management standpoint?

Mr. STONE. There, you have put your finger, Senator, on one of the things that I have tried to emphasize in my own remarks. I will answer it in a broader sense first, then I will try to answer it more specifically in Europe.

The broader sense is that we feel very strongly in the Army that we have to be able to manage this reduction in a measured way. We have to be able to shape that reduction of the 764,000 people we have today. We have already taken 15,000 out in the last couple of years, and we will move to do more, more quickly in the future, but we have to do it carefully.

Senator WARNER. Is there a baseline of a minimum period of, say, years or months?

Mr. STONE. Well, the period that we have looked at so far is out through 1994, so we are looking at a 4-year period: 1991, 1992, 1993, and 1994. Those are the 4 years in which I said in my remarks that we would achieve a reduction in the Active component of the Army of 135,000 soldiers.

Senator WARNER. Let me shift to the second part of that question, and I will yield to the chairman if he wishes to join in. In the statement that was issued, I quoted it, "in addition, the United States agrees that it will station no more than 30,000 troops on foreign territory in Europe outside the central zone." Do you understand that to be a cap? In other words, could the United States

elect to reduce the 195,000 and, say, shift 10,000? Supposing Secretary Rice had a base closure unforeseen somewhere in Central Europe, and he wanted to shift down to another area in the flank, is that option, in your judgment, available?

Mr. STONE. Dr. Rice might like to answer that himself. My own answer would be that I believe the question of whether it is a floor or a cap is still under review. Our understanding is that the Army component of the 195,000 is going to be around 160,000 and we will have to manage our reduction from the 225,000 level where we are today to about 160,000.

Senator WARNER. Secretary Rice, do you wish to join on that?

Mr. RICE. Senator Warner, I too have been involved in discussions about how these reductions might be configured and what level they might take. Our own internal planning for the Air Force part of this, of course, looked at drawdowns that would have gone beyond the initial CFE position in any event, and so we had pretty well covered the span down to about the level that the President has now chosen. My understanding is that there is a problem at this point over just how the 225,000 ought to be mixed between the central region and the areas outside the central region.

Senator WARNER. Whether there is flexibility in the future to shift from our U.S. level in central to augment in the flank?

Mr. RICE. Yes. My understanding is there are still discussions going on within our own Government as to just whether the 195,000 is feasible.

Senator WARNER. I would yield to the chairman to see if he has any questions now.

Chairman NUNN. No, I think this is a very important point and I raised it this morning at a leadership meeting at the White House, because I had understood that there was going to be freedom to mix within that overall total, the 225,000. But now I understand that that is not the case, that we have basically gotten ourselves into a situation where the 30,000 outside the central region is a separate ceiling, so that no matter how many we have in the central region, we can't have more than 30,000 in Great Britain, Italy, Turkey, Greece, and those countries that are outside the central region, which I think needs some very careful review. I am very skeptical of that because I think the trend is going to be to get forces out of the central region, whether by arms control or because the German nation decides it doesn't want so many forces there.

I believe that we are very seriously inhibiting our future flexibility by implying or agreeing that we are going to have a separate 30,000 ceiling outside. I would much prefer to have a lower 195,000 to apply to both sides and to have flexibility as to how to mix that. But, that is something that is going to require the administration to take a careful review on and all of you, too.

Mr. RICE. Mr. Chairman, my understanding is that the chiefs and the commanders who have worked this problem would certainly prefer to see, and I think all of us would prefer to see, that kind of flexibility.

Senator WARNER. Did they espouse that on up the chain?

Mr. RICE. My understanding is that they have, Senator Warner, but as I said earlier, I think that is a subject that is still being reviewed and discussed within the administration.

Senator WARNER. Mr. Chairman, I don't want to use all of my time on this, so I would suggest that you provide for the record and for the chairman and members of the committee any such clarification as the three of you collectively feel is necessary on this question.

[The material follows:]

ARMY—FORCE REDUCTION IN EUROPE CAP

The President's proposal establishes a seperate limitation on the number of U.S. stationed personnel in the outer zone, and was arrived at only after consultations with the CJCS and Secretary of Defense.

AIR FORCE—FIVE-YEAR DEFENSE PLAN

Events in Europe are inherently unstable now as shifts of governmental power from Communist to democratic leadership occur and the questions created by German unification arise. Polls show that the majority of Europeans favor continued U.S. military presence. They see American forces as a stabilizing factor in these uncertain times. There is danger that possible troop cuts driven by budgetary pressures might undercut our position. Force reductions should be done incrementally through consultation with our European allies within the CFE negotiation process. CFE treaty language defining manpower is still being drafted with a number of flexibility enhancing options under consideration. This policy is the most prudent and holds the most promise for continued peace in Europe.

Senator WARNER. Would you yield me back my time?

Chairman NUNN. Yes, whatever you need, John.

Senator WARNER. Thank you. Moving on to the question of the force structure that will remain in Europe for such a period of time as is established, the term stability is used as the mission or an added mission of these forces, and Secretary Rice, you had it in your chart. Secretary Stone, we acknowledge there is a very clear remaining threat from significant conventional and strategic forces of the Soviet Union, even though they will eventually withdraw from the Warsaw Pact nations. But what is your understanding of stability force? What is that mission? In other words, to put it bluntly, what do you put on a recruiting poster now? Join the Army and become a stability force soldier? [Laughter.]

Mr. STONE. I think the purposes of the Army, Senator, should remain as they have been in principle, not necessarily in degree, for many years. And that is that the mission of the Army is to be able to maintain a flexible deterrence to whatever force, whatever threat may emerge.

Senator WARNER. And I accept that answer. Let us go right to Central Europe, the 195,000. They are termed to be a stability force. How do you define that mission? And what are the threats that require the presence of a stability force? I support the President, and I am going to fight hard to maintain a U.S. presence at such levels as the President determines in his professional judgment as Commander in Chief are needed. But I need the ammunition to answer the questions put to me on the floor. What is the definition of a stability force? What is the threat to it?

Mr. STONE. I am not sure whether my words will comprise a specific definition in the form that you wanted. But I think I can state an answer to what you are seeking.

It would certainly behoove the Army to be very careful about abandoning a strategy which has served the United States so well for over 40 years. Now, we do have a situation of considerable instability still. When we are taking almost one-third of the soldiers out of Europe as an initial withdrawal from the stability force that is there today, we are already interfering substantially with the body of that force. I think the mix of the force will obviously change.

Senator WARNER. But let me go to some specifics, because I have a very short period of time left. Would that stability be to try and resolve differences between the Warsaw Pact nations, say, on their borders?

Mr. STONE. It could be. It could also be to maintain the relationship we have with our allies, where we have commitments to them that embrace a military facet of NATO. We would like to discuss the continued presence of our stability forces with our allies before we take them down below the present position.

Senator WARNER. What about a reunified Germany?

Mr. STONE. We would certainly have to take that into consideration as well. I am sure that the President was discussing that with the generals this weekend.

Senator WARNER. That is a generalized answer to a specific question, so I would hope that you would be able to refine that answer for the record, because we are going to have to deal with it.

Mr. STONE. Right, sir.

[The information follows:]

ROLE OF ARMY FORCE IN EUROPE

The forward presence of U.S. forces after World War II gave visible evidence that the United States would remain decisively engaged in ensuring the continued security and stability of the European continent. This U.S. commitment stands in stark contrast to our experience after World War I, when U.S. forces were completely withdrawn at the conclusion of hostilities. While explicable in the context of the times, in the hindsight of World War II it was clear that the United States could not again afford to allow ideological, ethnic, and nationalistic rivalries to endanger the fragile peace that we and our allies had paid so great a cost to again secure.

Reference to the inter-war period is especially appropriate in this time of rapid and historic change in Europe. For the first time in over 40 years, we are at last witnessing the reemergence of free nations in East Europe. Of no less potential consequence, we are seeing the Soviet Union embark on the first tentative steps back to the community of democratic nations.

As we make this delicate transition, the continued presence of U.S. forces in Europe can serve as a stabilizing factor in a number of important respects. First, it will help allay fears that a reemergent Germany might again threaten European security and stability. Second, a U.S. presence, in conjunction with our NATO allies, can provide insurance that Europe remains secure against the possibility, however remote, that the transformation sweeping East Europe and the Soviet Union might be reversed. Third, U.S. forces serve as a strategic counterweight to the military power of the Soviet Union, which otherwise would emerge as the dominant military power on the continent. Fourth, a U.S. presence prevents pressures being exerted on Germany which might otherwise encourage Germany to seek an inherently destabilizing alternative to the U.S. security guarantee. Fifth, the U.S. presence in Europe provides a highly visible link to our strategic deterrent, thus signifying a significant U.S. security investment in Europe and the intent to reinforce in times of crisis.

This transformation under way in Europe may one day dictate a new institutional arrangement that supplants the role played by NATO and the Warsaw Pact, an arrangement ~~in which~~ the 35 CSCE nations assume the collective responsibility for ensuring European security. While the emergence of a new European security relationship will affect the relative size of the U.S. military contribution, it will not

change the fact that U.S. security will continue to remain inextricably linked to that of Europe.

Senator WARNER. Secretary Garrett, in your presentation, I copied it down, and then I took your statement and verified it, you said the United States will remain a maritime nation. Heretofore in previous testimony you have used, and I think the Secretary of Defense used, the word superiority. Mainly, that the United States must maintain a superiority in its maritime forces. Did you have any reason for eliminating that word this time? I think it is an important word.

Mr. GARRETT. Not at all, sir. That is the guidance that has been issued to the Department. The Secretary's position is that it is critical that we maintain maritime superiority. And I meant nothing to the contrary by my reference to our being a maritime nation.

Senator WARNER. Do you wish to amend and refine it at this point?

Mr. GARRETT. I will amend it and refine it.

Senator WARNER. We do that regularly around here.

Mr. GARRETT. The nature of our country Senator Warner, obviously is a maritime issue——

Senator WARNER. Then my question to you, sir, would be, if we are to maintain superiority, how can we sustain the proposed cuts that your military department may have to take and yet reach that goal?

Mr. GARRETT. Well, that is the issue that we will all be struggling with obviously, Senator Warner.

Senator WARNER. That is a politic answer, but I do not think it is going to sell. What do you need to maintain that superiority? Do you need assets over and above what you have now?

Mr. GARRETT. I believe we do, yes, sir.

Senator WARNER. So you do not have it now. It is the mission of the Navy, and you are faced with cuts in the Navy.

Mr. GARRETT. That is correct. We are all faced with cuts, and we are working as diligently and as hard as we can to affect a credible balance to provide a balanced capability.

Senator WARNER. My last question, gentlemen, to the three of you would be the sequestration on the personnel accounts, which is presently before the Congress of the United States. Each of you take a brief period to address the importance of that issue.

Senator GLENN. Would the Senator yield, is that the reprogramming request you are talking about?

Senator WARNER. That is correct. I thank the Senator from Ohio.

Mr. STONE. I will be glad to start, Senator, and I will keep my response brief as you requested. The Army request for reprogramming in this area is about $230 million. Essentially the Army requirement is to pay for obligations that we are incurring today, which are required under the law of the country, which have been passed and have been authorized.

Senator WARNER. Just in case it is not in the record, what is the down side, if Congress fails to grant it?

Mr. STONE. Then we have to look at taking down force structure faster than we would like. We would have to freeze promotions, for example, as a possibility and take some other personnel actions,

which are inimical to the overall quality that we are trying to retain.

Mr. GARRETT. As to the Navy, Senator, if in fact we are not provided favorable action by Congress on the request, we would have to cut end strength. That is, by May 1—38,000 people (27,000 Navy, 10,500 Marines). We would have to stop 10,000 selective re-enlistment bonuses. We would also have to freeze about 17,000 permanent change of station moves and endure all of the breakage that goes with that.

Mr. RICE. Senator Warner, in the case of the Air Force, we are already taking a 26,000 reduction in our military end strength in order to accommodate the lion's share of the $600 million total problem we had in the military personnel account. We have requested reprogramming, only $228 million of a total of $601 million that was our starting point. We have leaned forward as far as we think we can with very little slack left, and with personnel actions that depend on voluntary moves——

Senator WARNER. The question is what happens if——

Mr. GARRETT. If we have to go farther, we will have to go to involuntary actions. We will have to deny promotions. We will have to renege on commitments to people who think they have an opportunity to re-enlist, actions that I believe would be highly inimical to the preservation of our all volunteer force.

Senator WARNER. Mr. Chairman, I ask the Chair to quantify that specifically for the record.

Senator EXON [presiding]. Without objection, it is so ordered. Thank you very much, Senator Warner. Senator Glenn.

Senator GLENN. Thank you, Mr. Chairman. I would like to follow up on Senator Warner's question, because in previous years, when it came to these personnel accounts under Gramm-Rudman, the President exempted military personnel accounts.

Last fall we urged the President to do that again. The administration refused. I must say we feel a bit conned on this committee at this point. Several of us have expressed ourselves on this. Now we are being asked to approve a reprogramming of $1 billion that the administration could very easily have exempted and would have made this reprogramming completely unnecessary, as they did in previous years. Why was that not done this year?

Mr. STONE. Senator Glenn, I cannot answer that specifically. But I would like to reiterate, if I may, just one point about the Army reprogramming request. I emphasize that it is being requested primarily to take care of obligations that we are incurring today that have been authorized by Congress, but for which no funds have been appropriated. It is not to retain end strength and exempt the personnel accounts from certain other actions.

Senator GLENN. I understand. We urged, and I urged on the Manpower Subcommittee, that this be done. It was refused. Now we are supposed to somehow ante-up the billion or approve reprogramming from other sources that you have. We feel a bit miffed about this thing, because we are the ones that are the heavies now. Can you move your cuts more into this year than next year to accommodate this, if we refuse to make the billion dollar reprogramming approval?

Mr. RICE. Senator Glenn, if I could add a point to that in the case of the Air Force. We had a total problem, as I mentioned, of $601 million shortfall in our military personnel account from all purposes, all causes. Only $179 million of that was the sequester. If there had been no sequester, or if the military personnel account had been exempted from the sequester, we would still have a $422 million problem. Our reprogramming request is only $228 million.

Senator GLENN. Well, the total we are dealing with DOD-wide is almost $1,935,000, I believe. Another question regarding the COLA freeze and the COLA cap that is proposed. The amended budget proposed a COLA freeze on military retired pay in 1991 and a permanent COLA cap of CPI minus one on military retired pay beginning in 1992. We changed the military retirement system in 1986 over objections of the military, made the change. Congress grandfathered all serving or retired military personnel. I feel there is going to be an impact on morale and confidence of our military personnel as to whether we are living up to our stated or unstated contracts with them, if we go ahead with this. Do you not agree that any such freeze and cap would break faith with our military, who have every right to expect that the Nation live up to its word?

Mr. GARRETT. Certainly, I generally believe, Senator Glenn, any time that we make representations such as we do in this time of all volunteer forces that we should live up to and honor those representations.

Senator GLENN. Do you personally agree with this COLA cap and COLA freeze?

Mr. GARRETT. To be honest with you, Senator, I have not addressed that issue or focused on that issue. But again, generically, I think the answer that I could give you is that I believe we have an obligation as representatives of these people to ensure that we honor the representations we make either individually or collectively.

Senator GLENN. Secretary Rice, do you personally agree with the administration's position on this?

Mr. RICE. I would certainly support the point that we have an obligation to honor the representation to commitments that were made.

Senator GLENN. Do you feel what the administration has proposed honors that commitment?

Mr. RICE. Clearly, this proposal reduces the benefits that our military retirees had expected would be available to them based on the conditions under which they served to earn those retirement credits.

Senator GLENN. Secretary Stone, do you agree with the administration's position on putting a cap on and cutting the COLA?

Mr. STONE. I am just not familiar with the issue, Senator. I will have to look at it and give you an answer for the record.

Senator GLENN. Fine, please give that to us for the record, if you will.

[The information follows:]

COLA CAP

The Army fully supports continuation of full COLA adjustments to retiree pay and SOP. This proposal is a radical departure from previous grandfathering prac-

tices which protected already serving and retired soldiers from changes to the retirement system and represents a serious breach of faith. Reneging on Congress' promise in 1986 to protect retirees, survivors, and all serving soldiers would undermine confidence in the stability of the retirement system and diminish its effectiveness as a career retention incentive.

Senator GLENN. We have requested this year two things, in legislation from last year: one, a reassessment of the threat in line of what is going on; and two, a reassessment of our total force policy. It has been in effect since 1973, which deals with roles and missions of the services and the Reserves, the Guard, and so on.

Some of the functions that we have assigned all these years to the Guard and Reserve have worked supremely well, others have been lousy, they have not worked at all. Now we are in a time of retrenchment, of cutting back undoubtedly. And we just—I cannot tell you how much, how strongly I feel, I think the members of this committee feel, about doing a good job this total force concept restudy. None of you really mentioned or got into the Reserve component. I think Secretary Rice in his statement says, "we are going to be more reliant on Reserve components," on page 4 of his written testimony but did not get into detail on that. That has to be our guide.

We cannot vote "maybe" here in the committee. We have to vote solid funds and support for certain functions in the Reserves and Regulars. And those roles and missions have to be very clearly defined, if we are going to do a job that we are supposed to do here. Have you been assigned priorities in this reassessment that we are making this year? Are you part of the committee that is looking into that, Secretary Stone?

Mr. STONE. I would be glad to take a first crack at that Senator, because the Army has the largest component of its total structure in the Reserves and the National Guard. I have three things to say that might be appropriate.

First, all three services are already very substantially engaged in the total force study that Congress has requested. That is already started.

Second, in the Army, the Guard and the Reserve have grown over the last decade much faster than the Active component. The Active component during this period has been essentially level for the past 10 years. The Guard and Reserve have increased both in quantity and in readiness and overall equipment status and overall quality. As we come down, because of the nature and size of the reduction, it is appropriate that we look at the Reserve structure as well with the idea of making sure that we retain, as you said, the quality elements that we have been trying to accentuate. We want to be able to strengthen the Guard and the Reserve, even if they become somewhat smaller. So we are going to look at the ratio.

And third, demographics in certain parts of the country make it somewhat difficult to recruit. We have learned in the last 10 years that we cannot maintain a force structure in the Reserve component quite as high as we set out to. So we are going to be looking at that too.

Senator GLENN. Secretary Garrett, what kind of priority are you giving to it?

Mr. GARRETT. We are looking, of course, Senator Glenn, at everything. I, however, believe and maintain that we should not arbitrarily move more forces into the Naval Reserve. I think that any change in the Navy's force mix should only occur as a result of a change in the Navy's mission. I think we should limit those to areas where there is mutual support that can be provided by the Reserves.

Now in that context, we have looked at the force mix issue annually, I think, for the last 7 years or so, and have found that the mix we have is about right, which is about 80 percent Active, 20 percent Reserve. That does not mean that we do not need to look more carefully at those issues in the future as things change. But as you can appreciate, given your background, there are certain forces in the Navy that are difficult to man and keep in a ready status without the proper balance.

Senator GLENN. Secretary Rice, are you giving priority to this?

Mr. RICE. Senator Glenn, I did not provide more details in that written statement because we do not have all of the specifics worked out yet. But in our internal planning we are at this point looking at taking the reductions that have to be taken in the Air Force force structure, most likely entirely out of the Active forces. We are expecting that we will add somewhat to the Guard and Reserve forces as we do that so that the resulting Air Force will have a much more significant proportion in the Guard and in the Reserve components. And that is why the general point is in my statement at this time about greater reliance on the Guard and Reserves.

Senator GLENN. Can you tell me whether this total force policy study will be incorporated, or will be the guide for the development of the 1992–1997 POM?

Mr. STONE. I think it is a yes and no answer, Senator, from my perspective anyway. Certainly the committee is at work already. There is a baseline amount of data which is already being used. We have such a tight timeline on the program objective memorandum (POM) at the end of April that I do not think all of the data will be reflected there. But as much of it as possible will be.

Senator GLENN. Is that the same answer the rest of you would have, I presume?

Mr. RICE. Clearly, the total force policy study will not be completed until well after the POMs have to be submitted. But during the review of the POMs this summer, I am sure any issues that arise in the total force policy study that we did not get incorporated in the POMs as the services prepared them can be addressed during this review inside the Department.

Senator GLENN. I am sure everybody would agree that we need that at the earliest. We need it now. I wish we had started the study 2 years ago instead of when we did. My time is more than up. Thank you, Mr. Chairman.

Chairman NUNN [presiding]. Thank you, Senator Glenn. I believe Senator Cohen is next.

Senator COHEN. Thank you, Mr. Chairman. Secretary Garrett, I think Secretary Rice came in on a sort of stealth mission and he launched a low observable at the Navy and then kind of lit his after-burns and got out. But he said something to the effect that

you can fly faster and arrive with less, or sail with more and arrive after the war is over. I think that was kind of a pitch for the C–17, and I was interested in that. I noticed in your oral statement you mentioned that there were three Navy missions: one, nuclear deterrence; two, power projection; and three, sea control. I did not hear you mention sealift so I suspect there may be some tension between sealift versus airlift as far as budgetary priorities are concerned. Where does sealift fit within the three missions?

Mr. GARRETT. I think sealift clearly is a mission that the Navy will fulfill. It has over time. It is a mission that is complementary to the airlift mission. And that is another issue that we have to look at very carefully, Senator, as this total mix changes, if you will, through the 1991 process, as we debate and put together our 1992 through 1997 POM. So many things are changing that will force us to look at requirements. I have taken the position that we have a national problem. We support the national sealift policy that has been issued by the President.

Senator COHEN. What about the one issued by Congress last year, $600 million for sealift which was deferred? Where does that stand now?

Mr. GARRETT. We have looked at that issue as well. It is an issue of priorities, as was explained by the Secretary of Defense. The priorities were such that the funds were directed elsewhere. That does not take off the table the issue of sealift. And I think that that issue will become a critical one as the forces change, as the dynamics change worldwide.

Senator COHEN. We are going to have a situation, I assume, where it is not only a question of can you get there faster with less, but we are going to factor that in terms of whether we have any bases available overseas as well. Some philosophical seagull said perfect speed is not a matter of going faster and faster, perfect speed is being there. We are not going to be able to be there in very many places in the coming years. And it is going to place—at least it seems to me—some question as to whether we place a higher priority on sealift or airlift, or what the mix ought to be.

I notice, for example, Secretary Rice has made a request for six C–17s, a funding for six C–17s. During the past 2 fiscal years we have only authorized four C–17s. And I guess the question would be, Secretary Rice, why should we at this point go to six C–17s, when the first is yet to fly?

Mr. RICE. Well, Senator Cohen, the program is in the low rate initial production phase. The funds that are requested in the fiscal 1991 budget, of course, will be actually put on contract considerably later than we proposed them and you vote on them, and they actually result in work done on a production line years down the road from that. So it is a matter of providing the funding profile that is necessary for any of these programs that are in this stage of transition from development into production.

Senator COHEN. Secretary Garrett, the *Iowa* was scheduled to go to a new home port in Staten Island. What is more important at this particular point? Would it be to place a higher priority on new home ports or continue the 14 carrier battle groups?

Mr. GARRETT. Those are issues that we are struggling with as we put 1992 through 1997 together, Senator Cohen. I have taken the

position that none of the issues that we have on the table are sacrosanct, including strategic homeporting. I have also taken the position, and will make my recommendations to the Secretary of Defense on strategic homeporting issues as a function of force structure.

We still have a problem today in some of our overcrowded ports, our two main ports, Norfolk and San Diego. I do not see where the basic rationale in support of strategic homeporting has altered that much in the context of deploying the forces or disbursing the forces. But clearly the affordability issues have come to the fore in a way that requires that we examine each of those questions independently, and we will.

Senator COHEN. Secretary Rice just mentioned a moment ago that Congress has mandated, in essence, initial low production rates, redid that with two notable exceptions. One, in the field of producing satellites, and two, in the field of ship building. What has been your experience with respect to production rates for ships?

Mr. GARRETT. I do not think that they are inappropriate, Senator Cohen. We have a problem in the shipbuilding industry, not only with the industrial base; but also, the risk in building ships primarily is in the weapon systems that go aboard those ships. Building the hull or the platform that is going to carry the weapon system is a relatively low risk item.

The problem that I have seen with the issue of low rate initial production with ships is, if you built one, for example, the DDG–51, and then took it through to its completion of operational test and to get it out in the fleet, your entire infrastructure to support the continued building of that ship will have gone away. That to me is a very real practical problem that I have to deal with.

Senator COHEN. What is the Navy's thinking, what action is the Navy taking to preserve a ship building base beyond the normal overhauls of those new ships in the SCN account? I mean, there is a question now about, we do not have a merchant marine that is very viable. There has been study after study conducted and which gather dust, saying that unless we take some action in the reasonably foreseeable future, the ship building base for a merchant marine is going to decline irreversibly. Is that what the Navy is thinking of? Or is this something that has to come out of commerce or the private sector?

Mr. GARRETT. Again, I think that the issue of the merchant marine and the status of the merchant marine is truly a national problem, Senator Cohen. It is not one that the Navy can solve independently. As you know—as everyone knows—there has not been a commercial ship built in this country since 1987. Given the direction of our SCN budgets as I see them, I think the shipbuilding base will decline even further.

Senator COHEN. My time is up, Mr. Chairman.

Chairman NUNN. Thank you, Senator Cohen. Senator Exon.

Senator EXON. Mr. Chairman, thank you very much. Secretary Garrett, let me follow up, if I can, Senator Cohen's questions about the battleships. Two of the battleships now under the new proposal go to that great graveyard somewhere. Now, if we are going to be realistic, you must have made some determination on what restric-

tions you are going to place on the homeporting of those battleships. Can you tell us more than what you did in your answer to Senator Cohen?

Mr. GARRETT. Well, the fate of the two battleships going into moth balls did not drive the issue, Senator Exon, of strategic homeporting. There are seven other combatants in that battle group, for example, that were going into Staten Island.

Senator EXON. In other words, we are going to continue with the same number of homeportings that we had when we had four battleships. Is that right?

Mr. GARRETT. No, sir. I cannot say that. What I am saying is, as we put together the 1992 through 1997 program, I will review each and every one of those issues as to the strategic home ports that are left on the table. As you know, the Base Realignment and Closure Commission took three of those out. And, we are left now looking at Everett, Mobile, Pascagula, Pensacola—which is not going to change dramatically—and Staten Island. And I have taken the position that we will review every one of those, and where it makes no sense to continue, I will recommend that we not.

Senator EXON. But you cannot give us any indication on that now?

Mr. GARRETT. It is going to be a function of force structure, Senator Exon, which in large part will be, I think, decided as we debate the issues throughout the 1991 budget.

Senator EXON. All right, let me go to the 14 carrier battle groups. I agree with your statements and that of Secretary Cheney, that we must remake our force structure to recognize the key presence that we need for force projections around the world. Yet, are 14 battle groups truly needed to provide this presence in your opinion? Secretary Cheney has said that the issue of whether or not 14 carrier battle groups is going to be reduced is open. Is it still open, or have any preliminary decisions been made?

Mr. GARRETT. Obviously, the 14 carrier battle groups that the Secretary of Defense decided to protect are in the 1991 budget. The first part of your question: are they needed. In my view, Senator, they are needed. And I base my views on history. And not ancient history since I go back to 1970 and come forward. And when you look at the requirements that were not driven necessarily by the Soviet threat but rather by circumstances around the world such as crises and contingencies that occurred between the years 1976 and 1985, over 82 percent of our deployments were required to be in excess of 6 months.

Now I say the 14 carriers are required in the context of maintaining what we call a reasonable perstempo/optempo. That is, if we are going to avoid sending our people to the Indian Ocean for 150 days at sea with only 5 days in port, then we must have a core of assets that we can draw from to surge and to respond to those contingencies.

Senator EXON. Again, given the threat—or the assumed threat?

Mr. GARRETT. Given the contingencies that we anticipate and those that no one can predict with any degree of certainty.

Senator EXON. Secretary Rice, there has been a great deal of publicity on the recent GAO report.

Chairman NUNN. Senator Exon, could I borrow one minute from your time on that 14 battle group question without charging you?

Senator EXON. Of course.

Chairman NUNN. Mr. Secretary, the question will be asked on that on the floor. It will go something like this: the threat in Europe has substantially diminished according to everybody's analysis, Secretary Cheney, General Powell, the CIA, the DIA, and so forth. The Navy had 14 battle groups that apparently were adequate for the world as it was prior to the fall of 1989. Now that the Warsaw Pact has fallen apart, the threat is diminished—we can argue about how much. Does that mean that if the Navy still needs 14 battle groups, that it was not playing any role in the defense of Central Europe?

Mr. GARRETT. No, sir. I cannot say that. Of course, what I am dealing with is the Secretary is providing those resources to the CINCs and to the national command authority to respond and all I can say, Senator, is when I go back and look at what has occurred then I use history as sort of a prologue to the future. And what I am concerned about, and will always be concerned about, and you will hear from me time and time again, is the impact that these unscheduled deployments have on people. And that is one of the reasons why I think our forces have to be forward deployed to maintain that presence. I mean, everything that occurs, as you know, with us is an ocean away.

Chairman NUNN. You are saying then we never have had enough battle groups, and now that the threat has been diminished, we have to keep the ones we have? Is that what you are saying?

Mr. GARRETT. No, sir, I am not saying we never had enough. We turned the corner on 14 in about 1985.

Chairman NUNN. Well, if the threat has gone down, and the Navy was responding to part of the threat, then I fail to see how there could be the same need now as there was before the threat went down ?

Mr. GARRETT. I think that is the point, if I may, Senator Nunn. We were responding to a part of the threat. As I have looked back over time and obviously a lot has gone on before I came on board. I put my hand over Western Europe, and I certainly applaud the changes that are going on in Eastern Europe. And I certainly hope that the threat continues to recede. But that is only a part of the Navy's requirement for global presence around the world. And, of course, our requirement in the Mediterranean, as I said, has not been met.

What we need is to retain that core of the Navy. And this gets into the issue of reversibility. We cannot reverse that aspect. If we start taking carriers out of the Active force, we cannot reverse that quickly. So in my view, we need to protect the core that we can operate from and grow from. The carrier battle group, in my view, should be that core.

Chairman NUNN. Well, you can protect it without having it out there and part of the fleet of the time. You could put some ships on reserve, could you not?

Mr. GARRETT. Well, sir, my view is that we have a problem. There is a synergism here when we train and when we operate. We

cannot send a carrier to sea independently. It goes with all of its assets in the carrier battle group that operate, as you know, synergistically.

They train together and it takes them almost a year to work up and become prepared to go out and face whatever it is they may be called upon to face. That makes it very difficult, as I was mentioning to Senator Glenn, to put a carrier in the Reserves and have it as a viable, credible asset.

Chairman NUNN. But you could say that about the Army and the Air Force too. Everybody can make that argument.

Senator EXON. I would like to intervene here. I hope that the Secretary of the Air Force and the Secretary of the Army are not listening to this, because I suspect that they would use the same argument on any reduction in their forces.

Mr. GARRETT. Senator, they have heard this ad nauseam. They really get tired of hearing it. But I believe it, and I can only give you the best opinion that I have.

Mr. RICE. I will not touch that line, Mr. Chairman.

Chairman NUNN. Well, the only conclusion you can draw from that is that either the force was not sufficient before the threat went down appreciably, or the force that the Navy is projecting is not threat related. I cannot find any other answer. Either the force was not sufficient before the threat went down, or the Navy is not really basing its force on the threat. Maybe there is a third one. Senator Exon, I will not count that against your time.

Senator EXON. Thank you, Mr. Chairman. Secretary Rice, the GAO report recently came out, and I cannot go into it in any great detail today, but I want to ask you a question. This periodic in-depth report after the fact from the GAO may serve a good purpose. And I suspect that some of the criticisms contained therein are legitimate. Would it not be better if we had a beefed-up force of GAO employees working all the time at the Pentagon to monitor the problems they have discovered at the time they are happening rather than after the fact?

Mr. RICE. Senator, without trying to be at all facetious in responding to that question, as best as those of us in the Pentagon can tell, looking around, they are already there.

Senator EXON. What have they been doing, if they have been there and have taken 2 or 3 years to complete this study?

Mr. RICE. Let me back up and try to deal with this particular study, because I think there is an important point buried in there. As I am sure you are aware, I registered some, shall we say, vehement disagreement with this particular report. I did so because we felt that not only was the GAO's review neglectful of many aspects of defense management that we rely on and Congress relies on regularly, but they were in fact pushing an entirely new concept drawn from the private sector of the way that accounting systems should operate in the Government, and one that has not been accepted by Congress, and not been promulgated by the OMB for government agencies to follow.

I regret to tell you that the Air Force got into this almost as a volunteer. The Air Force financial management community was chosen because the GAO thought that—correctly—the Air Force program in this area was among the best in the Government, vol-

unteered to create some trial financial statements and trial balances to test out some of these new concepts the GAO has for how this sort of thing might be done in government.

Frankly, those of us who have looked at it have great trouble understanding the relevance. A report that draws conclusions about the data for defense decisionmaking does not ever mention the planning program in a budgeting system, the selected acquisition reports, the independent cost analysis capabilities in the Department, or any of the special studies that we do. The information that is available to support defense decisionmaking and which is provided to Congress on weapon systems and other aspects of defense operations, in my view, does not bear any real relationship to these new accounting standards that the GAO is trying unilaterally to impose on the rest of government.

Senator EXON. Secretary Rice, would it be possible for you to supply for the record the GAO report so that we all might take a look at it rather than to rely on leaked reports to the press or in front of one committee of Congress? If you could do that I would appreciate it.

Mr. RICE. Senator Exon, I would be glad to. And I would like to ask, with your indulgence, that we provide you with a letter that I provided to Mr. Bowsher with comments on that report along with the report.

Senator EXON. And also your response to the GAO report, that would be helpful to us.

[The information follows:]

SECRETARY OF THE AIR FORCE
WASHINGTON

February 15, 1990

Honorable Charles A. Bowsher
Comptroller General of the United States
Washington, D.C. 20548-0001

Dear Chuck:

You asked that I review personally the GAO draft report on the Air Force's FY 88 trial financial statements. Having done so, I have to tell you that we have very serious disagreements with both the content of the draft report and the GAO's handling of the "audit."

The GAO findings are fundamentally misdirected. They compare Air Force financial systems to GAO pre-conceived accounting statement requirements that have not been promulgated for executive branch adoption by the OMB. The GAO apparently wants government agencies to have the same auditable balance sheets and other financial statements as for-profit companies. This concept has not been accepted by the Congress or the Executive Branch.

The draft report is deficient in many other respects. It makes frequent assertions about the benefits from financial statements that meet the GAO-self-initiated standard, but presents no evidence to back them up. No cost savings are identified. Implementation costs, likely to be in the billions for the DOD, are ignored.

Overall, the draft report offers a narrow CPA's view of the information needed for defense decisionmaking that has limited relationship to the real problems of defense management. Many available sources of information supporting defense decisionmaking are ignored. There is no mention of the Defense Planning, Programming and Budgeting System, the Selected Acquisition Reports, the Independent Cost Analysis process, or the many analytical studies of cost and other factors. The report simply does not make a case why I need to know the depreciated, cost-based dollar value of the B-1B inventory in order to make an informed decision about the need for the B-2. Even if that information were useful, why do I need it at a penny-wise level of accuracy that a CPA would judge "auditable"?

The GAO's handling of this "audit" raises further troubling issues. The Air Force financial management community, widely recognized as leaders in the government, volunteered to work with the GAO and develop trial financial statements to provide a test case for GAO's ideas. In return, the GAO writes a hypercritical

and inflammatory report. (At a public meeting, GAO staff have described intentionally sensationalizing the title of the report to increase its newsmaking potential.) I would point out that the GAO will need the cooperation of the financial management professionals to carry out improvements to executive branch systems. This "audit" is a textbook case of how not to secure such cooperation.

The GAO's own procedures were not followed either. This is a summary report, but we are asked to comment without having the four underlying reports available. We were given 14 days instead of the normal 30 days to respond, and were denied a formal exit interview.

While pushing the GAO agenda, the report offers little recognition of the Air Force fund control system. The draft report mentions that our systems emphasize fund control (making sure spending limits are not exceeded); with some exceptions, fund control is adequate and expenditures did not exceed appropriations. Since the stewardship of appropriations for which we have been entrusted is one of our highest priorities and major financial responsibilities, we would have thought the Air Force's overall performance in this regard would have warranted some positive recognition.

Air Force self-reports have identified the shortcomings in its financial systems. The major system deficiencies discussed in the GAO report (lack of a transaction-based general ledger and financial control of government-furnished material in the possession of contractors) have been fully explained in our reports under the Federal Manager's Financial Integrity Act, and corrective actions are underway. The Air Force is fully committed to its goal of a financial management system that meets Office of Management and Budget objectives and complies with existing Comptroller General standards. As evidence of this commitment, the Air Force is currently planning to spend over $200 million over the next five years on financial system improvements and enhancements.

While GAO feels that "more needs to be done," these needs must be balanced and compete with other pressing requirements of the Department. Additionally, we must comply with OMB Circular A-127 requirements to gather and process financial management data only when necessary to meet specific internal management needs or external requirements, to tailor reports to specific user needs, and terminate reports if usage does not justify costs. The draft report fails to acknowledge the numerous decision-support tools available to Air Force leadership which supplement, but are outside the accounting and finance system.

The DOD Inspector General reviewed the draft GAO report for the Secretary of Defense and cited many of these same concerns:

"In addition to our general concern that the overall tenor of this report is unfair and fails to take proper note of existing management systems, without any specific support whatsoever, the GAO assumes that better financial systems will automatically lead to better decisions on the selection of future weapon systems. The GAO also ignores the enormous cost of developing these systems. For example, the costs for just one such system currently in development, the Army Reserve Component Automation System, has grown from $250 million to over $1.5 billion.

The GAO report offers no specific savings, but nonetheless infers from its title that "billions" can be saved. In our view, capitalization and depreciation of military hardware is of questionable value. Industrial and stock funds are "fed" by appropriations, which expire annually. "Losses" to one specific part of a stock fund are "gains" to an appropriation level account. The cost of making these stock and industrial funds more accurate at the lowest levels will probably exceed the utility of the more accurate information to DOD decisionmakers. Finally, the GAO comments with respect to long supply items and loss of inventory control (a very serious problem both within our own depots and for material in the hands of DoD contractors) have little or nothing to do with financial reporting, since these stocks must be managed on an item/inventory basis for readiness and warfighting purposes--not on the basis of a financial statement."

To sum up, this draft report creates the misimpression that the Air Force is wasting and mismanaging billions of the taxpayers' dollars because of inaccurate and unreliable financial data. Promulgating such a misperception would be an extreme disservice to the public and to the Air Force because it is simply without foundation. I urge you to send your team back to the drawing board with instructions to prepare a report that fairly evaluates the pros and cons of GAO's approach and which uses Air Force data only as a test case for a new approach, while recognizing that Air Force systems comply effectively with existing requirements.

I'm sure if we were to work together in a spirit of open evaluation, we could bring about the improvements in defense management to which we are all committed.

Sincerely,

Don

Donald B. Rice

[The GAO report is retained in committee files.]

Senator EXON. One last question, Mr. Chairman. There has been a lot of testimony back and forth on the need for specialized hangers for the B–2 aircraft. Secretary Cheney has testified in front of this committee that they are necessary to preserve the plane's outside stealthiness, and to prevent heat from destroying instruments in the cockpit. The Northrop people came to see me and told me that was absolutely not the case. Can you straighten it out for me? Do we need special air conditioned hangars for the B–2 or do we not?

Mr. RICE. I believe that we need hangars for the B–2. They are not planned to be air conditioned. They have a specification in very cold climates to be able to heat the insides up to 40 degrees in order to be able to work with the special materials that are involved with the B–2.

This is a matter that applies, obviously quite directly, to aircraft that have a heavy proportion of composite materials in them. But frankly, it could apply to many other aircraft as well. The airline industry does not do its maintenance out in the open, it does it in hangars. We probably should have had hangars for the B–52s all these years, especially those that operate in the very severe climates in the north.

So I see this largely as an issue of the proper way to do maintenance to actually reduce annual operating costs below what they otherwise would be. There is a requirement to get into an acceptable temperature range to operate with the composite materials and some of the other special materials.

Senator EXON. Well, maybe I am wrong, Mr. Secretary, but I understood the Air Force was requesting a hangar for each B–2. Now certainly the commercial air fleet do not have a hangar for each one of their commercial airplanes. That is the point I am trying to make.

Mr. RICE. We do have a plan to have hangars for all of the B–2 force, that is right, Senator.

Senator EXON. That is going to be a hard sell. My time is up, Mr. Chairman, thank you.

Chairman NUNN. Senator McCain is next.

Senator MCCAIN. Thank you, Mr. Chairman. Secretary Garrett, according to most studies, what was the required number of carrier battle groups in order to meet the threat as it was a year or two ago?

Mr. GARRETT. You mean the CINCs' requirements, the JCS requirements? I think that number is classified, Senator McCain.

Senator MCCAIN. Well, was it roughly around 20? [Laughter.]

Mr. GARRETT. Roughly. [Laughter.]

Senator MCCAIN. That is what I thought. Also, has there been no significant decrease of the factors which imperil the supply of oil through the Persian Gulf?

Mr. GARRETT. Not to my knowledge, no.

Senator MCCAIN. Is there a decrease in threat of the acquisition and use of atomic, biological, and chemical weapons by Third World nations?

Mr. GARRETT. No, sir. Those threats, as I see them, are potentially increasing.

Senator MCCAIN. Is there any decrease in Soviet naval activity in the Pacific except geographically?

Mr. GARRETT. They are restructuring their forces and patterns but their operating capability remains intact.

Senator MCCAIN. What does the decrease in two carriers do to your ability to meet existing requirements as you know them?

Mr. GARRETT. It significantly impairs our ability to meet our current requirements, our peacetime presence requirements without—and I want to stress—overtaxing the people who we send to sea. We went through that problem, as you know, Senator, in the late 1970s. And we continued with that concept of operations through 1985. As I pointed out in response to the chairman's question, approximately 82 percent of our deployments that were conducted during that time were in excess of perstempo/optempo goals.

Senator MCCAIN. Mr. Secretary, let me tell you what would be helpful to I think the entire committee, and especially me. That is if you would provide this committee with a strategy which would meet the new situation and define what our maritime requirements are in the Navy's view. Obviously that is intertwined with the requirements of the other branches of the service. But I think that a case has to be made for the continued numbers of carriers, or a reduced number, depending on what the studies of missions roles indicate. I think the chairman's questions are very legitimate.

Mr. GARRETT. Yes, sir.

Senator MCCAIN. We only have gut feelings now as to exactly what our roles and missions and requirements are. I hope you will be able to provide this committee, or the appropriate subcommittee, with that information.

Mr. GARRETT. I would be happy to do that, Senator.

[The information follows:]

SECNAV SASC TESTIMONY ON FY-91 AND FYDP

(The information follows:)

Senator McCain, I believe the U. S. Navy has a robust and viable strategy. We have developed and continue to refine a flexible, effective strategy which defines basic functions for naval forces, stresses the inherent strengths of American naval power, is resilient enough to adapt to changes in the world, and defines what sort of force structure we need to support our maritime requirements.

The Maritime Strategy is a concept of operations rather than a war plan. It is a power projection strategy which recognizes the ability of modern naval forces, as operated by the United States, to project military - and thereby political - power ashore. The Maritime Strategy is based upon the same three broad principles which have governed our national military strategy for the past forty years.

The first of these is deterrence. We want to convince any potential adversary that an attack on the United States or our allies would result in unacceptable consequences for the aggressor. This requires a strategic nuclear force, the capability to defend ourselves in a global conventional war, and a crisis-response capability to deal with lower levels of conflict that are localized or regional in nature, before they can grow in scope or intensity.

Second is the principle of forward defense. It enhances deterrence by ensuring that Navy and Marine Corps forces are in position to respond to crises quickly, and it maximizes the number of our response options should deterrence fail. As a global power, the United States has interests, allies and trading partners spread throughout the world. If we are to participate effectively in the mutual defense of our own interests and those of our allies, it is imperative that we have forces deployed in the regions wherein those interests lie.

Third, the strategy rests firmly upon a network of alliances. Since World War II, the United States has established agreements with more than 40 countries to provide mutual security for our common defense. It is a fundamental belief that by defending our allies we defend ourselves. Alliance strength rests not in the military power of any one individual nation, but the combined strength of all the alliance partners.

Clearly, the evolving nature of our political and military environment is shaped by continuing changes overseas, and we need to examine closely how we will proceed as the United States moves into the 1990s. From a naval perspective, one of the most important aspects of this examination is the degree to which the Maritime Strategy will remain valid as a key component of our national military strength.

While most frequently assumed to be a strategy for global war with the Soviet Union, the Maritime Strategy is actually a much broader concept designed to support the full range of U. S. global maritime interests across the entire spectrum of conflict.

The Soviet Union represents the most severe military threat addressed by the Maritime Strategy. As welcome as the possibilities presented by General Secretary Mikhail Gorbachev's restructuring and openness might be, prudence and history dictate that we continue to gauge our strategy and war-fighting capabilities against the requirements posed by this least likely, but ultimately most potent threat.

The facts are clear regarding Soviet naval capabilities. Traditionally a strong land power, the Soviet Union today possesses an impressive ocean going navy which continues to modernize. The most significant Soviet naval improvements have been in undersea warfare. Soviet submarine quieting and sensor improvements have substantially reduced our ability to localize and track their submarines. The technological edge in antisubmarine warfare which we have enjoyed for the past three decades continues to erode, and our first priority is to find the most effective means to counter the Soviet submarine threat to our sea lines of communication.

The Soviets are also improving in other areas. Their sea control capability is being enhanced by the development of better integrated air defenses, supported by new cruiser, destroyer, and frigate classes that will join their fleet between now and the year

2000. They are also building a new class of aircraft carrier which will carry high performance fixed-wing jet aircraft in both fighter and attack configurations. Finally, the addition to the Soviet naval inventory of land-based Blackjack and improved Backfire bombers, Fencer fighter-bombers, and Mainstay AWACS (Airborne Warning and Control System) aircraft is expanding their ability to threaten our key sea lines of communication in both the Atlantic and the Pacific.

Under the guise of arms reductions, the Soviets are scrapping older, non-operational units which have limited military utility. Having addressed the problem of block obsolescence, the Soviet Navy will emerge as a smaller, but thoroughly updated and modern force, more sustainable and more difficult to defeat. Thus, despite Soviet pronouncements of naval force cutbacks, Soviet naval capabilities are improving.

While we applaud the direction of recent political developments within the Soviet Union, and find encouraging the Soviet's pronouncements of a defensive national strategy, intentions are influenced by both world and domestic events and can change very quickly. We need to see where Soviet internal political developments lead, assure ourselves that openness and democratization are a permanent feature of Soviet international behavior, and carefully balance extant Soviet military capabilities against state political intentions before making any major course changes in our own maritime programs. We must remember, as we have learned so many times in the past, that political intentions can change overnight, while naval force structure, once relinquished, takes much longer to rebuild.

Taking a broader view, we believe that the post-Cold War world will more closely resemble the world prior to World War I rather than the essentially bipolar world we've known since 1945. We anticipate a diffusion of political, economic, and military power in a multipolar world, with strong regional powers developing as well. Against a backdrop of shifting alliances and power, economics will be as important as military power and the era we are entering may be as dangerous and violent as the world we leave behind.

Emerging crises and regional conflicts in the Persian Gulf, the Middle East, the Western Pacific, and Latin America are likely to remain focal points for U.S. military response to tomorrow's international security environment. In addition, international terrorism and drug trafficking pose increasing risks to Western interests--risks which may require an internationally coordinated military response.

The potential and nature of these low intensity conflicts must be considered. They can involve protracted struggles or sharp outbreaks of violence. They run the gamut from terrorism to regional wars with limited objectives. As we saw in the Persian Gulf and are seeing today with drug interdiction efforts, regional conflicts affect our vital interests and those of our friends and allies. We must be prepared to act in support of U.S. interests and those of our friends and allies. We must be prepared to act in support of U.S. interests throughout the world if we are to protect our citizens abroad and economic prosperity.

The most worrisome aspect of the increasing diffusion of global political and military power is the accompanying spread of high-technology weaponry. The availability of the most modern weapons and the growth of indigenous arms industries add a new dimension to the security calculations of regional powers, and our own as well. Today, 40 countries worldwide are arms producers. 41 countries now have diesel attack submarines, with nearly 250 in the Third World alone. 102 countries worldwide have cruise missiles, and 68 of those nations have an antiship cruise missile capability. 41 nations have a sophisticated naval mining capability.

The threat to U.S. and allied maritime interest is not exclusively naval. A number of Third World nations that are potentially hostile to western interests are well situated to pose a land-based maritime threat. Survival in such an environment requires advanced electronics and weapons systems and does not allow the luxury of "low mix" platforms. The "hi-tech," advanced military capability of the world's nations was underscored by the British experience in the Falklands and our own experience in the

Persian Gulf.

The proliferation of arms technology becomes even more sobering in view of the development of nuclear and chemical weapons by emerging regional powers. By the year 2000, at least 15 nations will be producing or will have acquired ballistic missile technology, and at least six are actively developing nuclear weapons. Fourteen now possess chemical weapons or the capability to produce them. Eleven more are suspected of developing the capacity, but only two, the United States and the Soviet Union, will acknowledge it. Three countries worldwide now have bacteriological weapons, and an additional 15 are suspected of developing them. As the use of chemical weapons in the Iran-Iraq War showed, some nations are willing to employ such capabilities despite international condemnation.

With or without superpower involvement, low-intensity conflicts will be increasingly violent and involve high technology. The proliferation of sophisticated weapons means that the types of naval forces designed to prevail in the technically sophisticated and modern threat environment exemplified by Soviet capabilities, are increasingly the same type of naval forces required to fight anyone else.

Planning for regional and low-intensity conflicts highlights a broadening of the national strategic focus in the past few years. The decrease in American access to bases and overflight rights around the world further underscores the versatility and capabilities of our naval forces. At the end of World War II, the United States had bases in about 100 countries; today we have bases in fewer than 40. Moreover, more reductions are on the horizon in both Europe and the Pacific. As U.S. access to overseas bases diminishes, naval forces and their afloat logistic support become increasingly important. Maritime forces can demonstrate military power without raising sensitive political issues of territorial sovereignty, which are a natural outgrowth of dependence upon overseas base and overflight rights.

Looking to the future, the United States will retain the enduring military role of a true global power. As such, the United States must ensure strategic deterrence of potential adversaries. As a maritime nation dependent on the sea lanes, we must protect the flow of commerce, energy, and raw materials. Many vital materials still come to us by sea. Some examples include: 46% of our oil; 100% of manganese, used in steel production; and 97% of bauxite and alumina, used in the manufacture of aircraft. And we must avoid giving up influence in any region by our absence from the scene.

We must possess the credible means to promote regional stability through continued military presence. U.S. presence, especially naval presence, has been the balance wheel of many regions for 45 years, and we expect that to continue.

We must support the foreign policy of the United States government, and defend our citizens and interests abroad, often on short notice and with the forces on hand.

We must bolster our allies through our visible presence, and deter our adversaries from unfettered adventurism.

We must be in position and capable of sustained combat operations across the spectrum of conflict if deterrence fails.

I believe that naval forces will continue to be the most flexible military instrument available to the President in the future, just as they have been in the past. It is not a coincidence that naval forces historically have been the most frequently chosen form of military response to crisis situations. Naval forces convey calculated ambiguity and are adaptable to a calibrated response. At the same time, their presence on the high seas does not irrevocably commit the United States to a given course of action. They are deployable, can remain indefinitely in the region, off shore, over the horizon, unseen but not forgotten, ready to operate at varying orders of magnitude. They complicate the calculations of parties opposing our interests.

These are not new functions and characteristics for the U.S. Navy, although they may have been overshadowed somewhat during the Cold War. Naval forces have

provided this kind of effective crisis response throughout the nation's history, and most particularly since 1945. Since the young American Navy deployed to the Mediterranean to stop the depredations of the Barbary pirates, we have become well practiced veterans of this type of employment.

During the 1980s, naval forces were called upon to act in our nation's behest no fewer than fifty times. As a reminder of how commonplace it has become for naval forces to be the leading edge of national response when our interests are threatened overseas, some representative examples include:

March 1986 - In response to Libyan SA-5 missile attacks on U.S. aircraft, USS AMERICA and USS CORAL SEA carrier battle groups' aircraft destroyed two Libyan patrol boats.

April 1986 - After the bombing of the La Belle discotheque, aircraft from USS AMERICA and USS CORAL SEA battle groups, with Air Force F-111s from the UK, conducted strike operations against targets in Libya.

January 1987 - USS KITTY HAWK carrier battle group transiting to the Mediterranean was detained in the Northern Arabian Sea in response to the Iranian installation of Silkworm missiles in the vicinity of the Straits of Hormuz.

July 1987 - USS CONSTELLATION carrier battle group was ordered to the North Arabian Sea to support the escort of reflagged tankers transiting the Arabian Gulf during the Iran-Iraq war.

September 1987 - The frigate USS JARRETT captured an Iranian vessel laying mines in the Arabian Gulf.

October 1987 - USS RANGER and USS MISSOURI battle group ships, in concert with U.S. Navy units of the Middle East Force, destroyed three Iranian oil drilling platforms.

January 1988 - Because of internal political instability and a military coup, Amphibious Ready Group/Marine Expeditionary Unit was positioned off the coast of Haiti, prepared to evacuate personnel and refugees.

April 1988 - USS ENTERPRISE battle group surface combatants and aircraft, in concert with U.S. Navy units of the Middle East Force, destroyed Iranian naval units in retaliation for the mining of USS SAMUEL B. ROBERTS.

September 1988 - To guarantee stability, USS NIMITZ and USS MIDWAY carrier battle groups were on station off Korea during the Olympic games.

February 1989 - Amphibious Ready Group/Marine Expeditionary Unit moved to the Eastern Mediterranean off Lebanon following a missile attack on the U.S. Ambassador's residence.

June 1989 - Fast sealift ships transported Army personnel and equipment to the Panama Canal in response to the unstable political situation and assaults on opposition party candidates.

August 1989 - USS CORAL SEA and USS IOWA battle groups were stationed off Lebanon; USS AMERICA returned to the North Arabian Sea; USS RANGER and USS FORRESTAL prepared for contingency operations, all in response to the apparent murder of Marine Lieutenant Colonel William R. Higgins and threats to other hostages.

We expect this trend of violence and crisis to continue in the future. The United States must be prepared to deter potential adversaries and respond to crisis when deterrence fails by maintaining presence in four major geographic areas: the Western Pacific; the Indian Ocean and Persian Gulf; the Eastern Atlantic and Mediterranean; and the Caribbean Sea. These areas have traditionally served as the hubs for our deployments, and for good reason. Since 1945 regional crises have concentrated in these areas, and that is where naval forces have been on station. Historically, we have maintained about four carrier battle groups forward at all times, including the carrier group homeported in Japan.

We generally characterize the size of the U. S. Navy in terms of how many carrier battle groups we can operate, although there are other important components in a balanced naval force, including submarines, amphibious ships, aircraft, mine warfare forces, and combat logistics vessels.

Strictly in terms of carrier battle groups, how many do we need to meet the requirements of this future world? There are two answers to the question. In a global war with the Soviet Union, the number required to reduce risk to an acceptable level is a classified figure, well in excess of 20 carriers. In peacetime, the number of carriers needed is dictated by three criteria: the need to maintain a credible deterrent; the requirement to meet peacetime national requirements for forward overseas presence, the preservation of regional stability, and the prompt response to unanticipated or emergent crises; and a force sized so that our seagoing sailors can be afforded a tolerable quality of life that will motivate them to remain in the naval service.

In general, the Navy we have in hand today is the balanced force we need to maintain regional stability in areas that are important to the United States, to remain a credible deterrent, to participate effectively in the fight against illegal drugs, and to respond to day-in, day-out national requirements.

Today's Navy is of sufficient size and capability to execute the military roles of the United States in the post-Cold War era. This Navy constitutes a credible strategic deterrent force which can also satisfy a broad range of anticipated peacetime requirements. Present fiscal austerity notwithstanding, forward naval presence will continue to underpin the national security strategy of the United States. I believe it essential to exempt the means of continuing this forward naval presence from the round of budget cutting now upon us. We must not cut force structure to levels that will render our Navy incapable of meeting the challenge of the decade ahead. Our planned retirements and replacement objectives are calculated to maintain vital military capabilities. We must continue to modernize the fleet incrementally, replacing older carriers, surface combatants, amphibious ships, aircraft, and submarines with the newer naval forces that will be the mainstay of our capability well into the next century.

Senator McCAIN. Otherwise, I think what many of us are most concerned about are proportional cuts across the board for the three services which gives us the existing force structure and a reduced capability to meet newly evolving national security requirements.

Secretary Garrett, I am very concerned about the career officers in the Navy and the promotion system. As I view it and hear from my friends, it is reminiscent of the Gilbert and Sullivan song from HMS PINAFORE, "Stick Close to Your Desk and Never Go to Sea, and You May Be Rulers of the Queen's Navy."

I hope you will be able to provide me with the guidance that you provide the selection boards. I do not think people who are combat experienced, and who are operationally experienced, are getting promoted in the Navy. I would like to be disabused of that belief. And frankly, you have a problem within the officer corp of the Navy. That is the perception today. And the last thing I want to do is penalize people for serving operationally.

That brings me to this question: do you believe that the requirements for our naval aviators to meet the gate of 9 out of 12 years of operational flying is really feasible, since we also require joint service and schooling? Are they able to be prepared for a higher command given those requirements?

Mr. GARRETT. I share your concern. And of course I do not want to see anyone penalized, certainly those who operate at sea. I have looked at this issue a number of times, Senator McCain, but I would be happy to put it in context, do the analysis, and provide it to you for the record.

Senator McCAIN. Thank you, Secretary Garrett.

[The information follows:]

CAREER OFFICERS AND PROMOTION SYSTEMS

There are many competing demands for the skilled warrior. The most important is operational proficiency which can only be gained aboard ship or in a cockpit. Our job as leaders is to afford each individual ample opportunity to gain and hone these skills and to develop into a leader of the future. We carefully monitor the career path of each officer and we ensure that he or she is given the opportunity to excel at sea. This monitoring also requires us to ensure that the legal requirements for promotion to flag and general officer are met by assigning people to joint service. We are doing that. I can and do request waivers for individuals whose career assignments have not given them the opportunity to gain joint experience. I am satisfied that the Department of the Navy's promotion system recognizes the very best in selection to flag and that the law does not prevent a qualified individual from being selected.

With respect to flying gates, the requirement to keep our aviators in the cockpit for 9 years of their first 12 years of aviation service will reduce the flexibility we have in assigning them to important non-flying billets such as joint duty and advanced education. For this reason, we would have preferred a requirement of 7 or 8 years out of the first 12. However, we think our assignment system is flexible and responsive enough to enable the great majority of our aviators to meet the new operational flying requirement while maintaining the necessary flow into joint and other critical jobs. To protect aviators who will not be able to meet the new flying requirement, we will use the waiver authority that Congress granted to the service Secretaries. Time and experience will tell the extent to which we will have to exercise the waiver authority. In the meanwhile, the Department of the Navy will do its best to manage the career needs of its aviators within the framework of existing demands and requirements.

Mr. GARRETT. I want to assure you, however, that I will do everything in my power to not have those things happen, there is no question. But that is a very difficult management issue for the Navy given the requirements for our people to go to sea and to establish themselves in the operational environment. And we have to look at that very carefully, and I would like to do that and come forward with my recommendations.

Senator MCCAIN. Thank you. Secretary Rice, I know that you grow weary of the B–2 issue. But I think you also understand, given the cost involved and the controversy surrounding the weapon system, that there will continue to be congressional and national interest in this system. What, in your view, is the realistic total buy we could expect Congress to fund in the next few years? I know that that is an unfair question, but I think it is one that you clearly have to take into consideration as you go through these decisions.

Mr. RICE. It is not an unfair question at all, Senator McCain. It is one that I am going to have difficulty answering at this point, though, because as you know that is the very subject of one of the major aircraft reviews that the Secretary of Defense has underway now. We have certainly been looking hard at that question with our internal Air Force planning, and we are fully engaged in these reviews that the Office of the Secretary of Defense is leading.

I would say that I believe we must procure the B–2 in quantities that measure up as being significant in the deterrence equation. We recognize that the program, the way it is laid out now, calls for probably an unrealistically high level of funding in single, in individual, fiscal years. And the questions of how much is reasonable to invest in it in a given year, what is the pace at which it is sensible to invest in that program, and what the ultimate buy quantity

should be, are questions that I very much hope we will resolve in this review that is coming up. The ultimate buy quantity does not really need to be settled now, especially if a revised investment profile can be developed. Because frankly it will be many years down the road before any of the interesting alternative quantities will be reached.

Senator McCAIN. My time has expired, Mr. Chairman. But I think it is of vital importance that we, at least in the near term, determine what production rates we can expect to procure aircraft. Otherwise, very low production rates obviously drive the unit cost up significantly higher than they are now.

Mr. RICE. I do not think there will be a problem with the options that we have been examining, Senator McCain. But we will come back with the results of that, when this review is done.

[The information follows:]

MAJOR AIRCRAFT REVIEW

On April 26, 1990, the Secretary of Defense briefed the House Armed Services Committee and the Senate Armed Services Committee and the results of the Major Aircraft Review were discussed in detail.

Senator McCAIN. Thank you very much, Mr. Chairman.

Chairman NUNN. Thank you, Senator McCain. I believe Senator Thurmond has not had his first round.

Senator THURMOND. Thank you, Mr. Chairman. Mr. Stone, what will the United States and our NATO allies do with the excess modern equipment in Central Europe, after CFE? As long as we remain under or at the agreed upon ceilings for equipment in a CFE treaty, will we be able to distribute this equipment to our allies on the southern flank or elsewhere in NATO?

Mr. STONE. The question, Senator Thurmond, of the redistribution of the equipment after a successful conclusion of CFE has a number of alternatives. One, of course, is the redistribution of some of this equipment into the National Guard and the Reserve, and I would think that that will come to pass. There are some plans already to redistribute equipment, which is excess to the CFE counting rules, to our allies and that negotiation is underway. So the answer is, yes. That question is being looked at very carefully.

Senator THURMOND. Secretary Stone, last year the Army conducted a study on the Reserve command structure, specifically whether or not to place Army Reserve forces under the command of the Chief of Army Reserves. I am aware that you are planning to appoint a Reserve three-star general officer as a Deputy to the Commander, Forces Command. My understanding is that this officer would command the Reserve forces. Would you provide us the status of this proposal, and what would be the precise role of the three-star general?

Mr. STONE. I cannot give you that answer definitively, Senator, because the matter is still being reviewed by General Vuono, who will be with you tomorrow, and by other elements of the Army staff. I can say that it is very definitely our intent to comply with the directions that we have received from Congress in this matter. We have taken some interim steps already.

One of the major actions we have taken is to increase the control of resources by the Army Reserve so that they can dictate their

own resource management in a more direct manner than they have been able to do in the past. We think that is a very major development.

The actual relationship of that new command to General Burba in Atlanta, and to the Chief of Staff in Washington, is still being reviewed.

Senator THURMOND. Mr. Garrett, last year the Chief of Naval Operations testified before the committee that an anti-satellite capability was a requirement to enhance, among other things, fleet survivability. Is this still an important requirement for the Navy?

Mr. GARRETT. I think it is still an important requirement. As you know, we are working those issues within the Department and a program has been laid out, at least in concept. But as a requirement, we believe it still remains.

Senator THURMOND. Secretary Garrett, in your prepared statement under the heading Sealift, you indicate that together the Department of Defense and the Department of Transportation are assembling an agenda of programs and actions to ensure the adequacy of our sealift forces in the years ahead. Since I believe sealift is a major shortfall in our defense program, I hope this effort will make more progress than I have seen in the past. Would you tell us when you expect to have this agenda or programs and how long have the two agencies been working on it?

Mr. GARRETT. We came together, after the transfer of some of the RRF ships, with MARAD to work together at the direction of Congress. We will continue to work together to define our requirements, and of course our requirements, I think, are evolving as is everything else in this arena, Senator Thurmond. We will continue to work together to identify those requirements and hopefully to identify ways to address them.

Senator THURMOND. Secretary Rice, the Assistant Controller General, Mr. Frank Cunningham, told the House Armed Services Committee the cost of the B–2 stealth bomber has climbed $18 billion and that the cost for the 132 planes will now be $88 billion. I would like to know whether this is correct and whether or not you have any comment on that.

Mr. RICE. That is a new number to me, Senator Thurmond, and does not comport with our current estimate. Our current best estimate is, with the new inflation rates included that we were given by the OMB to redo the numbers for this year's budget, a little over $75 billion for the total cost of the program.

Senator THURMOND. $75 billion instead of $88 billion as stated by Mr. Cunningham?

Mr. RICE. That is right, sir.

Senator THURMOND. Secretary Rice, the Air Force currently has three significant aircraft, the B–2, the C–17, and the ATF, at various stages of development. The B–2 is expected to cost about $70 billion; the C–17 around $41 billion; and the cost of the ATF is still open. Is it possible that in the out-years the Air Force will run into the problem of having its entire aircraft procurement budget dedicated to one aircraft? Although each of these programs is being subjected to Secretary Cheney's review of major weapons programs, I expect that you have already established a priority in these pro-

grams. Could you tell us whether that is the case and what the priorities are?

Mr. RICE. Senator Thurmond, those programs are at somewhat different stages in their life cycle. They are all, we believe, essential to capabilities that we require for the future Air Force and the future Department of Defense. As you correctly observed, they are also the subject of major reviews inside the Department with which the Air Force is fully cooperating.

The B–2, as you know, is critical to the strategic balance. It is critical to the long-run future of the penetrating bomber which is the most stabilizing element of our strategic triad.

The C–17 is our new airlifter. It will come into a force that has had three different types of aircraft performing the missions that it is able to do across the range. As I tried to lay out in my presentation, we see airlift as a national asset that is going to be even more important to us in the future.

The ATF is at a much earlier stage of its life cycle. The major investments in the ATF will come down the road in a few years. We are still in the demonstration/validation phase. We would not make a decision to actually select between the two contractor teams until the spring of next year, the spring of 1991, and would not make a commitment to full-scale development on that system until the summer of 1991. So its major investment demands are really in the mid- and late-1990s, where the heavier demands for the B–2 and the C–17 come earlier.

We are very much engaged now in preparing the 1992–1997 POM in the Air Force, in understanding exactly how we fit these programs together within the limited budgets that we will have available. I believe we will be able to fit them all in.

Senator THURMOND. Thank you, gentlemen, for your appearance.

Senator GLENN [presiding]. Secretary Garrett, in December I wrote to the Secretary of Defense about the V–22. I never looked at this as just a marine ship-to-shore movement vehicle. I think if someone walked into your office or into my office or any of us on this committee and said that with regard to helicopter capability, I can offer you a vehicle that can go twice as far, twice as fast, and will carry a third more payload, and that is for every function the helicopters perform, civilian and military, we would be impressed.

Congress has supported the V–22 all these years, 9 years actively, followed before that—I think the total program time is something like 15 years now, but actually supported its funding, I think we are on our 10th year now. Congressional guidance, we thought, was given last year in the Authorization and Appropriations Act. We asked for a congressionally directed V–22 cost and effectiveness analysis. That was to have been submitted with the 1991 budget. We have not received that yet.

We know that this is a quantum leap forward in helicopter capability. I feel last year it never should have been presented just as a Marine ship-to-shore vehicle, even though that is the way it was presented and it was on that basis that Secretary Cheney shot it down, and I would have done the same thing if that was the total use of that vehicle, but it goes so far beyond that.

I would add to this that the Japanese have already been in Fort Worth negotiating for rights to build this airplane if we do not. I

do not know what the status of those negotiations are, but we will have nobody to blame but ourselves if we, one of these days, find ourselves 5 or 6 years down the road buying back an American invented and developed product from the Japanese, like VCRs, TVs, and everything else that we could name.

Why do we not have that study yet? When will it be completed, and why are we not going ahead with the testing, fully testing, at least the six aircraft we have already contracted for?

Mr. GARRETT. Senator, I understand that the COEA study is ongoing. I understand it is late, but the latest word I received was it should be done sometime around April. We have provided information that we feel is relevant to be considered in that study. And as to the funds, of course, Congress authorized and appropriated $255 million for us to apply. I have released that money to be applied to the continued testing of those six aircraft, and they are flying, at least the first four are flying.

Senator GLENN. But there are no funds in the budget before us now.

Mr. GARRETT. That is correct, sir.

Senator GLENN. And you still plan to terminate it?

Mr. GARRETT. The Secretary has directed me to terminate the contracts, and I have again applied, as I said, the funding for 1990 to the continued R&D and will continue through that program.

Senator GLENN. Secretary Stone, don't you look at this as a great vehicle sometime for the Army, if it is ever developed? It started out as a Army project at one time and because of funding it was cut back and was given to the Marine Corps. The Marines have been working on it. It is now coming to fruition. Is this not a vehicle you would like to see in the Army?

Mr. STONE. Sir, I had the opportunity to discuss this briefly with you the other day, and I will repeat what I said for the record. I think it fits into that category of decisions that I mentioned in my remarks at the beginning of the hearing when I said that I would be glad to look at it again in terms of our overall budgetary resources and within the dictates, of course, of what the Secretary decides.

Senator GLENN. I will just repeat: I do not see this as just a Marine vehicle, but I have always looked at this thing as something that really was a quantum leap forward in helicopter vertical capability. It has many civilian as well as all of its military applications. When you have a vehicle that can go twice as far, twice as fast, and carry a third more payload, that is hard to turn down. And I just think it was mispresented to the Secretary last year, and I would certainly hope he would reconsider it.

Sort of skipping around here, what sequester of personnel could be accepted without involuntary separation, if we do not go with this full reprogramming?

Mr. GARRETT. Speaking for the Navy, Senator Glenn, I would have to look at that in the context of the alternatives. Similar to the Air Force, we started into fiscal year 1990 with a deficit of about $112 million for programs that were authorized and not funded. We were able, through some very good management by the Chief of Naval Personnel, to address that issue, but the Navy's problem for the requested reprogramming is $285 million for naval

personnel and approximately $80-some odd million for the Marine Corps. Off the top of my head, and I would like to answer that for the record, I do not think that we could accept a partial reprogramming without forcing people out, or taking other action that would be detrimental to our people.

Senator GLENN. Could each of you give us figures on that? Without trying to pin you down here today, could you give us figures on what level of sequester you would accept that would not require involuntary separations, if we are forced to that level?

Mr. RICE. We can do that, Senator Glenn.

Senator GLENN. Fine.

[The information follows:]

INVOLUNTARY SEPARATIONS

Army

The Army has requested authority to reprogram $232 million back into the active military pay account to avoid further adverse actions which would affect existing personnel. This reprograming bill was the residual after we had budgeted to reduce the force by 20,000 and reduced other programs so as to be able to live with $417 million of the total $649 million bill arising from Gramm-Rudman-Hollings sequestration, other Congressional reductions and the impact of entitlements authorized but not appropriated. We have already stretched the appropriation to the maximum. The new $35 million bill generated by approval of only 85% of the reprograming request cannot be absorbed without adverse action. We may however be able to avoid forced separations.

This additional $35 million absorption is predicated on the assumption that the Congress will approve another reprograming request which we will submit in April to cover increases arising from the declining value of the dollar against foreign currencies and increased costs generated by Operation Just Cause. These bills now total approximately $180 million and must be covered by reprograming along with the bulk of the $232 million reprograming request under consideration. Additional absorption will not be possible.

Navy

Navy requires the approval of the full reprograming request of $285M. If the reprograming is not permitted, I will have to take actions that will be devastating to our men and women and will reduce personnel readiness to its lowest point in over a decade. We will, in a few short months recreate the problems of hollow forces which we experienced in the late 1970s. We will enter the 1990s in worse shape than we entered the 1980s. Nonetheless, Navy has developed a list of the actions that it will be forced to take if reprograming were not approved. Involuntary separation is only one of several odious actions required to be taken. Involuntary separations would save about 20% of the $285M total. The other steps required to save the remaining 80% are equally disruptive for the fleet and for the individual sailor and include:

Action	$ Saved	Cost to Individual
Delay 1303 NROTC Commissionings	$14.3M	$6000
Eliminate 13,600 accessions	$72.9M	Career plans
Freeze 10,100 officer promotions	$14.3M	$860
Freeze 28,100 enlisted promotions	$29.0M	$1000
Curtail 9,655 SRB reenlistments	$60.0M	
Cancel 14,000 PCS moves	$32.5M	Family costs

There is no priority order for this list of actions we will have to take if we fail to get full reprograming. All actions are very bad. All actions break faith with our service members. All actions will cause us to destroy the high morale and skill level of the fleet which we have so carefully developed over the last decade.

These actions will come at great expense to the fleet in terms of readiness and personnel. Those steps above which reduce the number of personnel in the fleet, cause a 12 percent reduction in manning on non-deployed ships. Since the same level of work will still be demanded, this in turn will raise the work week for those personnel from 81 hours to 91 hours per week. The other actions will take deserved promotions or bonuses from those same personnel and thereby force our sailors to personally pay for the sequestration. SRB suspension will result in nearly 4230 reenlistments lost in the very skill areas we need most. We would save $60M by this step but retraining costs of replacements would be $773 million. Forty thousand additional untrained accessions would be required to replace these people.

The steps which we would be forced to take if we do not get the full reprograming do not serve the country, the Navy, nor the individual well. Navy has a well thought out plan for reducing the number of personnel in the service. Unfortunately, every step which we are being forced to take because of the lack of reprograming authority is totally contradictory to the balance our strategy would achieve.

The Marine Corps requires the full amount of its reprograming request. Inability to reprogram for the Marine Corps' $85.7M share of sequestration will eliminate the progress we have made in our manpower programs. We have already absorbed $22.4M in unfunded increases in entitlements authorized by Congress for fiscal year 1990. We did this through a variety of actions, including a voluntary early release program currently underway. We have no flexibility left in the manpower accounts. Absorption of the $85.7M in fiscal year 1990 will require demanding personnel actions which would have major impacts on the quality and readiness of our Corps. These actions include the following

- Delay 582 NROTC/PLC commissionings
- Reduce officer/enlisted accessions by 6459
- Involuntary early release of 6153 from FY1990/4129 from FY1991
- Reduce SRB Program by 2097 new payments
- Cancel 6946 PCS moves

Complete disruption of proper force management policies would result. Breaking faith with our Marines, and subsequent negative perceptions, will have the unintended effect of driving even more Marines from our ranks. Our commitments will not be reduced with our end strength. Fewer Marines will be forced to bear a bigger burden. We urge your continued support in approving the required reprograming.

Air Force

Secretary Cheney's position is that the services require the full amount of military personnel account reprogramming stated in the January 1990 report to the Committees on Armed Services. Our original request of $332 million ($104 million internal realignment and $228 million from other sources) is necessary to avoid adverse actions on our people.

Five-Year Defense Plan

DOD (FM&P) provided this information in a 6 March 1990 letter to Mr. Frederick F.Y. Pang, professional staff member, Senate Armed Services Committee.

ASSISTANT SECRETARY OF DEFENSE

WASHINGTON, D.C. 20301-4000

FORCE MANAGEMENT
AND PERSONNEL

6 March 1990

Mr. Frederick F. Pang
Professional Staff Member
Subcommittee on Manpower and Personnel
Committee on Armed Services
United States Senate
228 Senate Russell Office Building
Washington, D. C. 20510

Dear Fred:

I am responding to your questions relating to potential personnel actions. It should be noted that prudent actions to cope with the shortfall in the FY 1990 military personnel accounts have been taken. It's important to remember that the combined effect of Congressional reductions, unfunded entitlements and sequestration reduced the funding levels $1.7 billion below our planned program. The Services already plan to absorb $887 million of the shortfall. As a result, accessions in FY 1990 will be over 40,000 less than originally planned. The Services have also instituted early out separation programs, delayed PCS moves, and slowed promotion rates. The actions you suggested have largely already been implemented. Moreover, the actions suggested could have adverse long term effects on recruiting and result in further undermanning of active force units in FY 1990 and FY 1991.

Question: What dollar savings would be generated if you allowed voluntary extensions overseas?
Answer: The Services have already offered this option so no additional savings would be realized.

Question: How many accessions could you cancel in FY 1990 without breaking contracts and how much would that save?
Answer: We have already reduced accessions by over 40,000. We could reduce an additional 15,000 accessions without breaking existing contracts. That would save slightly less than $76 million.

Question: If you conducted a voluntary 90-day early release for those scheduled to leave in FY 1990, how many persons would opt to leave and how much money would that save?
Answer: About 4,800 individuals would be affected and this would save roughly $31 million.

Question: How many FY 1991 personnel losses could be moved into FY 1990 by allowing individuals to voluntarily leave 90 days early, and what would be the associated savings?
Answer: About 2200 individuals would be affected and this would save about $14 million.

Question: If personnel with 3-5 years service were allowed to volunteer for early release, how many individuals would accept and how much money would be saved?
Answer: The Services have already made this offer and no money would be saved.

Sincerely,

Chris

Christopher Jehn

Senator GLENN. Mention was made earlier of the hearings we had the other day on the GAO report, I want to comment on that briefly, but I know we are not going to debate all of this here today. I chaired those hearings the other day, as Secretary Rice is well aware. I am not here to defend the GAO study, nor to try and shoot down Secretary Rice's letter which disagreed strongly with the GAO report. But I would point out that some of the things that the GAO turned up were of Air Force origination.

We have a total in the military of what is called "long supply items." That means items for which there is no known immediate use. In other words, we over-contracted or a contract was cancelled and we put the equipment or whatever it was on the shelf, not knowing if we are ever going to have any use for it. That jumped from 1980 to 1986 from $9 billion to $31 billion. The Air Force portion that the GAO turned up—and these are Air Force figures—is about $18 billion in long supply items.

Spares control was not what they found in the cases where there had been duplicate purchases of spares. So I think there is a relationship to reality here, Mr. Secretary, with all due respect. You said that it was no relationship to reality, I believe those were your words.

They also found some 131 different accounting and management systems within the Air Force. They found some of them were, by their words, "not auditable." They said in their testimony that they were not trying to take this down to a CPA's last penny to make the final figures balance, but that the programs were off by millions, some off by billions.

I just put that out here so that we realize we are into something very serious here. I want to stress once again what the Secretary said, and he is absolutely right, that the Air Force was picked for the first GAO audit because they were considered to be the best of the services. Now, the other Secretaries here, if that puts a chill in your heart, I guess it should, because as you know, these are ongoing audits that we should have been doing a long, long time ago, I think.

Also, what they found was that this is not—they look at this government-wide. They think some other departments of government are just as far off on some of their estimates because across the Government a couple of years ago they had identified over 400 separate accounting systems, many of which could not speak to each other. That has been narrowed now to about 200 different major accounting systems. You could not begin to run a business that way, and yet that is the way we run the Government.

The Air Force is taking the brunt on some of this right now because they happen to be first out of the box, and in some respects, as the Secretary said, because they had moved to try and deal with some of these problems they had turned up internally, and they were thought to be the best of the services because they had done that. So I told the Secretary before the meeting, we want together on this thing and we are going to get together. I want him to have his day in the committee hearings also, as to how he responds to this. We are not trying to take unfair advantage, but this was about a 2-year effort by many, many people and all sorts of time expended.

Let me run by a couple of the other things very rapidly here. They found the costs of four major Air Force aircraft systems, B–2, B–52, F–15, and F–16, were understated by more than $27 billion between 1975 and 1988. That is a 13-year period, but it is still an awful lot of money.

I know the Secretary has responded to the B–1, saying they found that and updated those monies also, but that was well after we knew what the figures were here. Had we known those figures to begin with, whether the B–1 would have gone ahead with its approval or not the way it did, I do not know.

There were unsupported adjustments to budgets when they did not balance. The space systems division adjusted its books to account for $2.4 billion and they said that without explaining what happened to the money.

The military hardware in hands of the contractors, $630 million worth of satellites; $5.7 million engines for C–20, paid for, held by the contractors, but not recorded in any property or accounting system.

So these are things we cannot dismiss and we cannot just say the GAO was spotlighting these things too much. We plan to go ahead with hearings on this, as the GAO develops these other service audits and analyses. And as I say, I am not here to try and start a debate on all of this today. Mr. Secretary, my time is up, but perhaps you may want to answer briefly on this. We also want to give you your day in the barrel over there on the other committee whenever it is appropriate and we will be in touch with you on that.

Mr. STONE. Well, Mr. Chairman, if I could just make one comment in response to that and take a little of the heat off my colleague here. I think this is, as you correctly imply, Senator, a Department of Defense problem. It is certainly not just an Air Force problem.

Senator GLENN. A government-wide problem, you might say.

Mr. STONE. A government-wide problem, I imagine. I have already received a telephone call, last Friday afternoon, from the Comptroller General and he has informed me that the Army is going to be next in this continuing study.

I have had three confirmation hearings before this committee and I think at each of them, the record will show that I was asked one or more questions about the Federal Managers' Financial Integrity Act. I believe that legislation was passed in either 1981 or 1982, and I have become reasonably familiar with it because it was within my functional area when I was Assistant Secretary of the Army for Financial Management.

It has two principal sections; one dealing with internal controls, and one dealing with financial systems. Each year we submit a report to Congress on our internal controls. Each year we divulge weaknesses in our internal controls. Those internal controls are audited by our independent auditing agencies, and equally when we have made progress in rectifying those weaknesses or obliterating them, the auditors so testify as well, or so record. We have made some progress. We continue to discover weaknesses and with institutions as large as ours we will continue to do that.

In the case of the financial systems, we have now had a 9-year effort to rectify the problem. The Army has been in considerable difficulty. When I arrived in the Army in 1986, the Army had at the end of 1985, 61 different financial systems, and we now have 11. So we have eliminated 80 percent of those systems or merged them, and they are compliant with GAO's standards. I hope that GAO does find them compliant when they come to talk to us.

The point I am trying to make is that all of the services, and I am sure I speak for all of them, are trying to acquit this responsibility; we are taking it seriously. It is a massive job. It is very expensive. It is subject to funding difficulties. We have run into software difficulties as we implement some of the solutions. We had a software program and language change in the Army. We are making progress and we will be glad to testify if you hold some hearings on it.

Senator GLENN. Thank you.

Chairman NUNN [Presiding]. Thank you, Senator Glenn. I know Secretary Rice would like to say something. We have a vote at 4:15 so we are going to get buzzed any minute. Let me just ask a couple of questions and then I will try to come back to Secretary Rice. In response, Secretary Stone, to Senator Thurmond's question, I believe you replied that U.S. equipment in Europe in excess of the CFE ceilings will be transferred to the Reserves or to our allies. Is that correct?

Mr. STONE. I think that is what I said, although I might want to change that wording a little bit.

Chairman NUNN. What I was going to say is, to the best of my knowledge, it was supposed to be destroyed and the Soviets are supposed to destroy theirs. We have not had a change of position on that, have we?

Mr. STONE. No, sir, and that is why—what I was saying is that I believe those ceilings are—there is a difference between the ceiling as it exists today and what is called the negotiating ceiling, and there is some equipment there that is in excess of the Treaty Limited Equipment, and that is the equipment I was referring to that would be distributed.

Chairman NUNN. I see. I hope we do not get into a situation where in an effort to get certain equipment to allies and reserves, we end up in any way backing off the destruction requirement, because the Soviets are going to be destroying tens of thousands of items of equipment, and we will be destroying much less than that. But the last thing we need coming out of CFE is a proliferation of tanks and artillery tubes all over the world.

Let me ask each of you this question. Secretary Cheney told us he was working on a 5-year plan that cuts $167 billion from the budget over the next 5 years. I will start with Secretary Rice and work across; does your department have a 5-year plan that conforms to the $167 billion reduction that Secretary Cheney has announced?

Mr. RICE. What we have, Mr. Chairman, is the fiscal guidance from the Secretary that he developed and from which I believe he measured this, the amount of reduction that had to be taken from the previous plans that he has given you.

We have preliminary plans we put together last fall based on preliminary kind of "for instance" fiscal guidance from him, and we have reviewed those plans with the Secretary and he has arrived at some conclusions about force structure. And he has given you them at least as tentative conclusions. In the case of the Air Force, I think he had noted with you and others that it at least was a target at this point that we would be reducing more than five tactical fighter wings and some things in other areas.

There is a possibility, given a successful START outcome, of the Minuteman 2 force coming down and so on. But we do not have all the details of that plan worked out yet. That is our challenge in the 1992 to 1997 POM, to put together the specific force structure that fits within—and investment programs that fit within that resulting fiscal guidance. So we have broad outlines of it, but we do not have all the specifics yet.

Chairman NUNN. Thank you. Secretary Garrett.

Mr. GARRETT. That is essentially true with the Navy as well, Senator. We are working to put the final details together for the 5-year plan.

Chairman NUNN. Thank you. Secretary Stone.

Mr. STONE. The same thing, Mr. Chairman, the only difference I would make is that the original planning exercise that Secretary Cheney asked us to conduct was a 4-year exercise, 1991 through 1994.

Chairman NUNN. Let me start in reverse and ask you when do you think you will have that, that 4-year plan or 5-year plan? When do you think you will have the $167 billion identified or close to identified? Are we talking about the next 30 days? Are we talking about the next 60 days? When do you think?

Mr. STONE. All I can say is that during the summer, during the budget and program deliberations—it will be decided during that May, June, July period.

Chairman NUNN. Secretary Garrett.

Mr. GARRETT. Essentially, Mr. Chairman, we will build our POM through the end of April and submit it as a proposal to the Secretary for him to make his proposals to the President. Our proposal would be put together, as Mr. Stone points out, in the late spring or early summer and would then go to the President.

Chairman NUNN. Secretary Rice.

Mr. RICE. Mr. Chairman, basically the same. We are obligated to put together our recommendations to the Secretary under this revised guidance and submit it April 30. He will need a review process and decision time before he arrives at his final conclusions on the out-years of the program.

Chairman NUNN. How do we know that we can afford the programs in the 1991 budget if we have not seen that you can meet the 1992, 1993, 1994 outlines? How do we know we are not locking ourselves in, if we approve the 1991 budget, to programs that we cannot afford since we do not have a longer-term look?

Mr. RICE. Mr. Chairman, I will try to take a little bit of a cut at that in that the Secretary and all of us supporting him in the process tried as best we could to take a look, in the final stages of the 1991 budget preparation process, at the results we had arrived from this tentative out-year planning exercise, and tried to identify

those things which needed to be resolved in connection with the 1991 budget because they were time-driven for that budget action. So we believe at this point we have reflected in the 1991 budget all of the front-end actions that need to be taken in order for us to reach the out-year programs at the revised fiscal guidance levels.

Chairman NUNN. Secretary Garrett, can you say the same thing? Do you believe that you have, in your 1991 budget, done all you need to do in this year in order to achieve the savings that the Secretary has outlined over the 4 years?

Mr. GARRETT. I think, as Secretary Rice has pointed out, the proposals that we presented to the Secretary of Defense early on, certainly actions that were taken as we put 1991 together, were addressed in the out-years in the sense of the tails that follow. My own view, to be very candid with you, Mr. Chairman, is we of course set about with a proposal of a reduction of 2 percent across the FYDP. If we are taken beyond that, then it throws into question some of the plans that we had driving the 1991 budget.

Chairman NUNN. No, I am saying the Secretary's plan, not anybody else's plan.

Mr. GARRETT. I think so. Yes, sir. The tails were addressed as we went out and it is not going to be easy. But we believe we can put a balanced program together.

Chairman NUNN. Secretary Stone, do you believe the actions you have taken in 1991 are compatible with making the cuts necessary to reach the Secretary's 2 percent?

Mr. STONE. Yes, Mr. Chairman, I do. The one point I would like to emphasize is in the matter of force structure planning. It was most important during that 4-year period that we start with a level in 1991 that we thought we could sustain and fit it into the whole framework of 1991 through 1994.

Chairman NUNN. Let me ask this question quickly here and then I will yield to Senator Warner. Secretary Cheney reported he is currently reviewing four major aircraft programs: the B–2, the ATF, the A–12 medium attack aircraft, and the C–17 transport. Each of these programs was started when we had a fundamentally different threat than we have now. Secretary Rice, do you believe now that we still need each of those programs under the Air Force in the same numbers and in the same time frame that we had before the threat changed?

Mr. RICE. Mr. Chairman, as I indicated in response to an earlier question, we are reexamining not just the basic need, the basic requirement for the system, we are going back and reviewing that, although I think the answer is going to come out in each case that that requirement is still valid. We are also examining as we go along in these reviews, the question of the pace and timing of those programs, and I would expect that it could well be an output of the views that there will be some suggested adjustments in investment rates, and ultimate quantities for some of those programs. Certainly, as we get a better handle on the force levels that are going to be sustainable in the out-years under these budget levels, we will need to come back and reexamine the total procurement quantities for any number of systems, not just these as well.

Chairman NUNN. Secretary Garrett, the same question to you on the A–12?

Mr. GARRETT. Yes, sir. I believe the requirement is still there. As you know, the requirement is driven not only by the threat that we anticipate in the future, which hasn't changed in terms of what the aircraft would face, but it is driven also by the fact that we are presently flying an airplane that we have been flying for over 30 years. So it remains a critical requirement for us. We all sit as members of the review group. It is a very comprehensive review, Mr. Chairman, and I think some very good answers will be coming out of our review. But from my point of view as to the A–12, yes, sir.

Mr. RICE. Mr. Chairman, if I could add one thought on that. Secretary Garrett and I are, as he says, both very deeply involved in these reviews, and one thing that strikes me about the examination of these four programs is that we are down as a Department of Defense, not as an individual service in these cases, to a single program that constitutes the modernization effort in major mission areas.

We have one bomber program underway, we have one transport program underway, and as you know, there are three different aircraft that are used for that mission today.

We have one interdiction aircraft modernization program, and Secretary Garrett has just referred to the age of the A–6 program. You know that we stopped procuring F–111s sometime ago in the Air Force.

We are stopping the F–15 E-line with the 1991 budget action, and there is only one opportunity for modernizing the deep interdiction, the long-range interdiction aircraft for both the Navy and the Air Force.

We will be stopping the F–15 interceptor capability along with the F–15 E-line. The F–14 line is being stopped as well, and there is only one option available for modernizing our air superiority capability, stretching out through the end of the century.

Again, that has to serve for both the Air Force and the Navy. So walking away from these programs represents a decision not to modernize at all in a major mission area, and I think we have to have that context in mind as we work through our reviews of these programs.

Chairman NUNN. Senator Warner.

Senator WARNER. Thank you, Mr. Chairman. Your question is a very important one, and I think Secretary Stone should be queried as to whether or not he has any input into this. For example, the C–17, in my judgment, is integral to your future revision of the forces in the Army. Am I not correct?

Mr. STONE. Yes, sir.

Senator WARNER. And you are weighing in—in other words, you have a voice in this——

Mr. STONE. The answer is yes to both parts of your question, Senator. First, we do participate in the review committee, and second, it is very important to us.

Senator WARNER. Secretary Rice, you are quite correct about the single mission that we have or the single program for these missions. In my opening comments I urged that this type of review be timed in parallel with the consideration here in Congress. Hopefully, those decisions will be forthcoming in a timely fashion, such

that they can impact on the subcommittees of this committee as they review those specific programs. Do we have that assurance? I am thinking that we will not begin subcommittees until the last part of March, would that not be right?

Mr. RICE. Senator Warner, the reviews that we are all participating in are scheduled to complete their first round internal work by that time, but I think it would be quite appropriate to allow for some additional time for the Secretary to review these results, perhaps ask some additional questions, and send us back to look at options if he has them in mind.

Senator WARNER. Now, you point out something that we had better get together on with you.

Mr. RICE. I think the Secretary's commitment, as I understand it, is to have his recommendations for you before markup.

Senator WARNER. There are two markups that go along here. The subcommittee markup is a very important one.

Mr. RICE. Of course, sir.

Senator WARNER. While the full committee sometimes reviews and makes some amendments, we rely very heavily on the subcommittee structure. I would suggest that the various legislative liaison persons in attendance here today begin to work with committee staff and see if we cannot have a better assurance that we are going to get that information in a timely fashion, and when I say timely, it cannot be on the day that the subcommittee is going to markup. We will need it prior to the hearings on those specific programs.

Mr. RICE. Understood, sir. I think from our point of view, we have to protect the Secretary's decisionmaking time as well.

Senator WARNER. Secretary Garrett, you entertained the world last night with "Hunt for Red October." How about your own Sea Wolf program? Was it impacted by the show?

Mr. GARRETT. I hope positively, Senator.

Senator WARNER. I think so. Can you give us an update on that program?

Mr. GARRETT. Of course. We are proceeding with the construction of the first Sea Wolf, which was in the budget in 1989, and we have the follow-on now before you. We believe that the program, which is essentially an issue of modernization of our submarine force, is needed to maintain superiority.

Senator WARNER. Specifically, what about the ship design, is that on schedule, the combat system development proceeding on schedule?

Mr. GARRETT. The last reports that I have indicated that they are. I have had briefs on the Sea Wolf 2. I believe the ship design is proceeding forward.

Senator WARNER. And the reprogramming of $178 million presently before Congress, I dare say, that is essential to keeping those schedules?

Mr. GARRETT. It is essential. As you know, this is the lead ship of a class, and, as I think I had explained to you I will put on the record, the reprogramming was primarily generated from unanticipated labor costs that came out of a labor disruption and also unanticipated increase in materiel costs. It is critical to keep the pro-

gram on track, as it would be with any program, as you try to manage through these difficult times, Senator.

Senator WARNER. Secretary Rice, the growing concern that many of us have on the tactical ballistic missile threat—what is your assessment of this threat and what actions should this country take and what are we taking?

Mr. RICE. Senator, it is quite clear to any observer of the world scene that the technology to produce and deploy ballistic missiles is spreading around the world——

Senator WARNER. Predominately down in the Middle East, wouldn't you say?

Mr. RICE. The Middle East and Asia, sir. Certainly in India, possibly Pakistan, and China, of course, has had that capability for some time. And as you mentioned, in a number of the Middle East and——

Senator WARNER. And they are threats to Israel?

Mr. RICE. And certainly threats to Israel and other circumstances we may be concerned about around the world. The question of defending against tactical ballistic missiles or theater, medium-range ballistic missiles is one that I think has to receive priority in our research efforts.

We do not have a clear solution to that problem at this point, but it is on the docket as one of the objectives of the SDI program, and one of the things we are looking out for there. It is just one additional reason, along with the continuation of the strategic ICBM capabilities that exist on the other side, and therefore a potential threat that we have to be concerned about. The theater or the medium-range ballistic missile is just one more reason for us to be concerned about the need for defense against ballistic missiles in the future.

Senator WARNER. Mr. Secretary, speaking for myself, I think it has a priority that is really higher than the overall SDI objectives at the moment. I am a strong supporter of SDI, as I presume you and others are, but it seems to me that we have to reexamine this component of SDI and perhaps do one of two things. Give whatever congressional impetus we feel necessary to accelerate the work in that area, or maybe take the program out of SDI, make it a separate program, collect the bits and pieces amongst the services, and establish a new management framework. Would you care to comment on either of those propositions?

Mr. RICE. Senator, it is part of the SDIO now and I believe that it is the current intention of the Secretary to keep the program together and to provide it, thereby, the benefit of the kind of focused management and resource commitment that it can have as a result of being organized into the SDIO the way it is. The services execute parts of those programs, as I am sure you are aware.

Senator WARNER. I am fully aware of that.

Mr. RICE. But we are not directly responsible for designing the makeup of the overall program.

Senator WARNER. I will address that question later.

Chairman NUNN. May I ask a question on that? Would it make sense for you to be responsible for it, like any other program, and let it compete in the budget like any other program?

Mr. RICE. Mr. Chairman, if that question is directed to me, I think that you can make the argument both ways. The judgment of a succession now of Secretaries of Defense and Presidents has been that the benefits of having it organized in a way that it can get the kind of focused commitment and focused management that is possible through an organization like SDIO, outweigh the benefits that might be there from more direct involvement of the components of the services that are practiced at developing other systems.

Chairman NUNN. Mr. Secretary, you are learning to be diplomatic in this new job. [Laughter.]

Senator WARNER. Mr. Chairman, could the Secretary of the Navy answer with respect to the tactical ballistic missile threat with regard to the deployed fleet units and particularly those units that carry troops aboard?

Mr. GARRETT. I think the threat certainly is, as we talk about the threat of the future, that I see evolving and to our detriment, one that we must continue to devote our attention to both in the research and development areas, as well as fielding deterrence.

Senator WARNER. Are you working on an area defense system for fleet units deployed in proximity of ranges of these missiles?

Mr. GARRETT. I am not sure that I can answer that question off the top of my head. I will take it for the record.

Senator WARNER. I would appreciate that.

[The information follows:]

Because of their mobility, naval forces at sea are difficult to locate and target with ballistic missiles. Consequently, we are not working on a fleet area defense system against these weapons.

Senator WARNER. Thank you, Mr. Chairman.

Chairman NUNN. Senator Glenn.

Senator GLENN. Thank you. We never let Secretary Rice reply to my comments about the GAO report a little awhile ago. I think we owe him some time on that one.

Mr. RICE. Well, thank you, Senator Glenn, I guess. [Laughter.]

Senator GLENN. Do not do you any favors. [Laughter.]

Mr. RICE. I would just make the following comments, sir. Secretary Stone pointed out and as I think you mentioned in your comments too, many of the actual problems that exist in the operation of accounting systems and their financial management systems that go along with them in the Air Force, and in other parts of the Department of Defense, have been identified by the components of the Department in their reviews that they are required to do under the law. So, it certainly does not turn out to be, in my view, a way to proceed to make the kind of improvements that we are all looking for in the management of the taxpayers' resources to set up this kind of challenging relationship when a much more productive result might be arrived at through a cooperative relationship.

I think the other things that do not ring true or well to those of us who are seized with these problems on a day-to-day basis are the allegations that somehow decisions have been made improperly or that we do not know what things cost. When those judgments are derived entirely from the way the accounting systems work, which only are examining retrospectively the way results can be drawn out with respect to specific weapon systems from a set of account-

ing and financial systems that are designed around the objective of controlling obligations and expenditures—that is, tracking the fiduciary responsibilities to execute the appropriations that are provided to us by Congress. That's a different kind of financial management and accounting objective, and we have many other mechanisms which the report ignores for coming to understand what we need to know as decisionmakers about the cost of weapon systems and the cost of other options that face us in the Defense Department.

So, when I said earlier that I thought the thrust of what the GAO was proposing was in many ways off the mark, I was really speaking to the underlying theme and requirement against which they have done the audit—that government agencies ought to have the same kind of double-entry bookkeeping systems as private organizations and that we ought to produce from them the same kind of income statements and balance sheets as for-profit companies do, presumably as if the Air Force was threatened with an acquisition or takeover, and somehow it would be providing more accurate information. The relevance of that to the decisionmaking process and the actual decisions that have to be made by managers in the Defense Department and by the committees of Congress is what I was questioning.

Senator GLENN. What has concerned us here and what obviously concerned me on the other committee is in retrospect, and you will have your response to this I am sure at an appropriate time, it appeared that the figures we had relied on to make our authorizations and appropriations and fit within certain budget parameters had been rather grossly misestimated or misstated and/or both. That did concern us because that means if we are going ahead with the same old systems we cannot really rely on those figures that we are given to make future decisions. That was the major concern.

Chairman NUNN. Senator Glenn, if I could add to that, on the B–1, as we have not gotten into that case. Regarding the B–1, you will remember when there was a cost cap and Secretary Weinberger gave assurances over and over again that the cost cap had been met and in fact was very, very proud of the fact that he had managed that program within the cost that he had set forth. If that is not the case, it was not only Congress that did not get the accurate picture, it was the Secretary of Defense, too.

Mr. RICE. Mr. Chairman, if I might interject, that is an excellent example of where the processes are talking past each other here. Congress did get the correct numbers. What the GAO is saying is that what is collected in an accounting system, if you add up all the pieces of that, it does not add up to all the costs that should have been associated with the B–1 system. But we did collect all of those costs and include them in the selected acquisition reports, which is the official basis. It is the basis you have laid down in the law by which the Department of Defense reports to Congress the costs of major weapon systems programs.

Chairman NUNN. Are you saying there was one set of books where we did get the whole picture and one set of books that was different?

Mr. RICE. I would not say "set of books." I am saying that the Department tracks the costs associated with weapons systems and

that those are reported through the SAR process and the numbers that GAO came up with are very close to what is reported in the SARs and not at all the multi-billions of dollars difference that Senator Glenn was alluding to. I think that is a part of the disconnect that we are having here, and frankly, again I think a lot of these matters could be worked on far more effectively in a collaborative working relationship, since we all share the objectives of trying to get these financial systems into the best shape we can and doing the best job we can of exercising our fiduciary responsibility for the funds that the taxpayer entrusts to us.

I think all of these allegations, that somehow decisions, that people have been misled or decisions have been made improperly or based on widely inaccurate cost numbers are simply wrong. It may be that when you look into the formal accounting systems you do not see a B–1 tag on everything in that formal system. But the accurate B–1 numbers have been reported to Congress and have been used in the internal decisionmaking in the Department.

Chairman NUNN. Then they have been accurate?

Mr. RICE. Yes, sir.

Senator GLENN. But the chairman's position is very well taken Mr. Rice, because at the time we were talking about keeping the B–1 under $200 million a copy. That was the guarantee, and you remember all the fuss that went on about that and all the guarantees, and everybody was very proud when everything came in under that. Now, we find the $7.9 billion additional here and other costs where they showed up on the review of selected SARs or whatever. We are into this $7.9 billion beyond what Congress thought they were voting and what was being adhered to.

Mr. RICE. No, sir. Not beyond what was reported in the SARs.

Senator GLENN. Maybe not beyond what was reported in the SARs, but all sorts of publicity went out about how we were going to go under $200 million. I think unless somebody had come forward—I think if that was not the case, somebody should have come forward at that time and told us that it really wasn't going to be that. We really were not getting what we thought we were going to get, that it was going to be much more expensive.

Mr. RICE. Senator, I don't know how much we ought to prolong this in this setting, but you have the correct numbers in the SARs and the correct numbers to comport with the dollar cap that Congress imposed.

Senator GLENN. Okay, there will be other forums for this. Let me ask you each a question on what you have looked at so far on this total force review on the realignment between regular roles and missions, and Reserve and Guard roles and missions. Have you come up with any suggestions yet, or have you made any decisions on what you are going to recommend with regard to changing the roles and missions of Regulars, Guards, or Reserves?

Mr. RICE. I would be happy to talk about the options that we are looking at closely within the Air Force, Senator Glenn. We have not reached final decisions on them yet. They will be reached, in terms of final decisions, in our recommendations to the Secretary as part of the POM process.

We are, as I suggested earlier, looking at taking essentially all the reductions out of the Active forces. We are looking at the

option to rely much more heavily on the Guard for the manned reconnaissance mission, and for the training associated with that. We are also looking at the possibility of moving at least somewhat more of the airlift force into the Reserves. We are looking at the possibility of preserving some tactical fighter wing force structure by increasing the size of some of the squadrons in the Guard and Reserve that operate at a lower PAA than those in the Active forces.

So, there are a range of possibilities that we are examining. And I am not even counting there the increasing role the Guard and Reserve are playing in the antidrug operations and things of that sort. But, just in terms of the basic force planning, there are a number of areas where we are examining possibilities of increased roles for the Guard and Reserve, as well as planning to preserve the force structure that they have today.

Mr. GARRETT. As to the Navy, Senator, we are looking as well, as we look across the POM 1992 through 1997, at a number of options. We are, of course, looking closely at the experience that we are having with transferring the frigates into our reserve structure and our ability to man them and operate them, which we hope will give us some basis upon which to make intelligent decisions in this regard.

But I would say at this juncture, while we are looking at many of these, if our missions do not change from what they have been, I would take the position that these studies we have done, essentially would remain valid. If our roles and missions do change then I think we need to relook that issue. But we will look at it continually as we go through this process.

Senator GLENN. It will come more out of the threat analysis and all of that, I presume, Secretary Stone?

Mr. GARRETT. Yes, sir.

Mr. STONE. There is only one other comment that I would add, Senator, to my original remarks on this subject, and that is there are some differences between the three services in the composition of the Reserve component.

In the case of the Army, where you look at an Active component division of 15,000 people, you will find there is some part of its support structure, even if the division is in the Active component, that would mobilize and follow it to war that is in the Reserve component. So as you reduce the Active component structure of the Army, you inescapably must look at the Reserve components as well.

So, although our initial actions are directed at the Active component and I think our initial scrutiny will continue to be on the Active component, there will be some cases where we will look at the Reserve components for some reductions as well. I reiterate that the Reserve components, both in the Guard and in the Reserve, have grown much more rapidly in the last decade than the Active component.

Senator GLENN. My time is up, but I have a comment. You have a particular problem in the Army, and we have tried to work on that with the Army for the last 5 years that I have been on the Manpower Subcommittee, and I wish I could say that we have made a lot more progress than we have made, but we have not.

You have the problem of combat support, combat service support, the lack of MOSs, and the numbers of people. And about 70 percent of combat service support is in the Reserves, and when it is not working, it means Regulars could hold the line for about 2½ or 3 weeks, then we are out of business in a war.

The same thing on medical. Eighty percent of our assignment for combat medical is in the Reserves, and we are still 71 percent short of doctors, that is 7,000 doctors, as I recall, and 66 percent short on nurses, that is 31,000 nurses short. These are overall DOD figures that I am talking now. I should not just pin all of that on you.

But combat service support and combat support, those are primarily your problem, and much of the combat medical—80 percent——

Mr. STONE. Your comments are accurate, sir, as far as I know, but I would make two quick comments.

One, we have made a lot of progress in the Army in the last few years. We have increased the readiness rates of the Reserve forces. Their equipment is better. And two, I think this is what I said to Senator Thurmond, we will, as we look at this force structure realignment over the next 4 years, 5 years, make sure that we try to come out of this with a stronger Reserve component than we have today.

Chairman NUNN. Senator Glenn, on the point of the B–1 that we were just having a dialogue about, my staff has informed me since this dialogue started, that in fact, what the Secretary says is accurate and that is, that the SAR report, which we got, did reflect the accurate numbers. What the GAO was aiming their criticism for was another system that was a different system within the Air Force. It was not intended for the same purpose, I think according to everything I have, it is entirely accurate to say that we got the accurate information, and I assume the Secretary of Defense got the accurate information.

Mr. RICE. Yes, sir.

Chairman NUNN. Do you have anymore questions?

Senator GLENN. My time is up, but I do have a couple of more questions.

Chairman NUNN. Well, let me have you close out. We have a vote in about 3 minutes and I have a couple of people waiting for me. Secretary Stone, Secretary Garrett, Secretary Rice, we appreciate your being here. We will have a lot more dialogue before this year is over. We look forward to continuing to work with you.

Mr. RICE. Thank you, Mr. Chairman.

Mr. GARRETT. Thank you, Mr. Chairman.

Mr. STONE. Thank you, Mr. Chairman.

Senator GLENN [presiding]. I will be just a couple of minutes more here. Secretary Garrett, on homeporting, do you view home porting any differently on those places that are planned in the gulf as opposed to others that have better access to the open oceans?

Mr. GARRETT. I do in the sense, as I said, of establishing priorities in my own mind. We have a very delicate problem, as you know, Senator Glenn.

Many of the communities have contributed significant sums of money to this effort, but I have committed in discussions with the

CNO to review each of those in not only the operational context, but also all other aspects of this issue.

Senator GLENN. I was concerned when that decision was made, and fought against it in this committee, for those inside the gulf, because I felt that to deliberately take some of our major capital ships and bottle them up in the gulf where they are more vulnerable, trying to get out through the Yucatan Channel or the Straits of Florida, just did not make much sense. It would make it more vulnerable instead of less.

I still feel that way about it. I did not really question the ones that had easy access to the open ocean so they can get out and do things, in case there is any attack. You might want to make separate consideration on those inside the gulf or at least look at them with that idea in mind as to whether we really do need to continue with the hundreds and hundreds of millions of dollars that are going into those facilities right now. I know it is expensive to terminate, also.

Mr. GARRETT. Actually, Senator Glenn, I have looked at the analysis, and we have come a long way through the process. As we said earlier, Staten Island is almost complete. One that is not as far along is up in the open ocean area of the northwest, but I will look at these issues with that consideration in mind. Also, you have the issue of drug ops in the Caribbean for which those assets could be used.

Senator GLENN. Just one other point that I would like to make. Many on this committee, including me, have been very critical of this idea of just unilateral reductions. I think we are giving away too many things. A military threat comes from not only the forces over there, the actual hardware and people to use them, but also from the political will, the political ability to use those forces.

Now, what has changed? What has changed really is the political ability to use the forces. The forces are still there. We are phasing out all of our M-1 tanks—we did not even ask any questions about the M-1 tank today, but we are phasing out. We will not have one single tank production facility in this country, and the Soviets are still producing, what is it, 3,000 a year or something like that?

Mr. STONE. I think the estimate has come down to 1,800, Senator, but still, that is three times as much as we are doing today.

Senator GLENN. What I presumed we would do in cases like this is, we would field these proposals of ours at Geneva and at Vienna and let them be a subject of negotiation, where we get the Soviets to peel down a like amount. Now, we felt we were giving some of these things away without apparent coordination with our arms control negotiators.

In December at least, Secretary Cheney labeled that kind of criticism "hogwash" and that was his word in quotes. In other words I thought, okay, that is fine. He is not going to submit a budget to us unless it has been run through our arms control negotiators and we have made the maximum amount of it over there with the Soviets, so that the real hardware comes down, not just the political ability to use it.

But a new budget comes over and it then has a reduction of $167 billion over the 1990–1994 period and proposed or discussed the reduction of 5 Army divisions, 5 Air Force tactical wings, 10 Navy

combatant ships, significant Guard and Reserve manpower reductions, significant military and civilian strength reductions. And that was a big disappointment to me and some of the other members of this committee, because I thought those were all things that we could have used for negotiating points with the Soviets, where we are already behind them and where we are unilaterally taking our action.

The Washington Post reports that the administration now has issued a new classified guidance to the military services for use in planning the 1992–1997 POM. It would certainly help us if we knew what was going into that so we could be part of the team in helping develop this. Can you tell us the timetable for development of the 1992–1997 POM, and when we may get copies of that? If we have copies of it on the committee, I am not aware of it. Do you know what the timetable is for that?

Mr. STONE. We were trying to respond to that earlier. Secretary Rice, I guess, gave the most precise response, and that is that the services are working the program years now through 1997 and have to respond to the Secretary by the end of April. The programmatic decisions by the Secretary and his staff, working with the services, will be conducted during the summer. The third point is the one I made earlier when I responded to Senator Nunn by saying that, certainly the exercise that was conducted last fall, which he referred to as the $167 billion program, has been reflected in the budget that has been submitted to Congress now.

Senator GLENN. But those are things that I do not know why we are negotiating those things at Vienna and Geneva, instead of just announcing unilateral reductions. The Soviets still sit over there with 5 million people in their military. Now, I know Gorbachev has said, well, it takes him time to adapt and unemployment and all of that. I appreciate that, but it would seem to me that without us just unilaterally announcing reductions, we could field some of these things or table some things over there and get some agreements with them as to what we are going to do.

Mr. RICE. Let me just add this comment. I think if the Secretary of Defense were here, he would say, because it certainly is the basis on which we are all doing our planning, that these are projected force structure and basing adjustments, which we would be likely to make under the budget levels that we are now projecting, but that these major adjustments are all conditional upon successful completion of a START and CFE Treaty.

So, we are projecting them for the out-years, based on a planning assumption that a START and CFE Treaty will be concluded in fairly short order, and that those treaties and other changes in the world will produce conditions in which it is safe to make those kind of reductions. If those assumptions do not come to pass, then the out-year budget guidance on which we are planning and the out-year strategic guidance clearly would have to be revised and we will have to back up and reconsider all of that.

Senator GLENN. You are all aware of the furor over the peace dividend and whether it is going to get spent. Now, the big argument is not whether it is going to be there or not, but how it is going to get spent. Is it going to be on social programs, is it going

to go to the debt, or is it going to go to tax reduction? What is it going to go for? That is the big argument on Capitol Hill now.

I think statements like this that the Secretary made or the proposal that came over to us is always looked at as a first start, as just a starting position for a negotiation. And if we are already starting from that kind of base, and you have a lot of people who would like to whack much deeper than that, it really puts some of us in a bad position here, who have supported the Pentagon and want to make this on a very rational, studied basis of how we scale down and what kind of a force we really need to deal with whatever the threat analysis is for the future.

And instead of that, we are getting this over here and will whack out five divisions, two air wings and all sorts of stuff like that, without any mention, whatsoever, of the threat or the analysis. Are we tailoring forces for the Persian Gulf, the Straits of Molucca, to go back into the middle of Europe to take any threat from China or wherever? We have to analyze these things, then tailor our forces for mobility.

And the one thing I hope we never find out over there when we are going down as far as we are is the area of research. It is the easiest for a lot of people to cut. Because if we ever have to build back up again, we want to do it from the best technological base we possibly can, and yet the long knives will be out for research. You can bet on that.

So I hate to see us volunteering these things like this when I feel they should be tabled over there and be the subject of negotiation, because when this is taken as the proposal, then there will be a lot of people here and over on the House side that will want to cut way, way, way beyond what they feel is already acceptable to the Pentagon. I just hate to see us start out this year's difficulties on that base. So, that is a statement, not a question.

This hearing will stand in recess, subject to the call of the Chair.

Thank you, gentlemen.

Mr. RICE. Thank you, Senator.

Mr. GARRETT. Thank you, Senator.

Mr. STONE. Thank you, Senator.

[Questions for the record with answers supplied follow:]

QUESTION SUBMITTED BY SENATOR CARL LEVIN

DETROIT TANK PLANT

Senator LEVIN. I was pleased during our recent telephone conversation to hear you say that it did not make economic sense to close the Detroit Tank Plant as the Army originally proposed in the fiscal year 1991 budget and that it makes sense to have that facility open while M-1 tanks are being produced in this country. You said that it was too costly to transfer the machining equipment from Detroit to Lima and then mothball the Lima plant 1 year later. Would you explain the reasons that led you to conclude that the machining operations at the Detroit plant should remain open and functioning?

Mr. STONE. When the current multiyear contract expires, the Army will negotiate a single year procurement contract with General Dynamics Land Systems (GDLS) for part of the fiscal year 1990 and the fiscal year 1991 procurement buy. As currently planned, Detroit Army Tank Plant (DATP) assembly operations could close as early as September 1991 and as late as 3rd quarter fiscal year 1992. Production at the Lima Army Tank Plant (LATP) will stop at the end of the fiscal year 1991 funded delivery period, early 1993, unless there are follow on foreign military sales.

Following the end of tank production, current plans are to refurbish the machinery and layaway the facilities until the 1998 time frame.

When the DATP assembly line is laid away, the Government's prime contractor for the Abrams tank—GDLS—will make the management decision concerning where the machined components will be manufactured as part of the follow on single year contract negotiations. Alternatives include break out, fabrication at other GDLS facilities, or a proposal to continue production within selected areas of the DATP. Regardless of location, the machined components now being produced at the DATP are necessary as long as Abrams tanks are being built at the LATP.

Questions Submitted by Senator Alan J. Dixon

LIGHT ARMORED VEHICLE ASSAULT GUN PROGRAM

Senator Dixon. As I said in my opening remarks, I am concerned that given the fact that the defense budget is being reduced, the services should be looking for commonality in their systems. Just recently, the Marine Corps entered a competition, after an initial market survey, to develop a light armored vehicle assault gun program. The Marine Corps assured the committee earlier that whatever system was selected must satisfy Army's requirements.

I have learned that the Army recently initiated a new market survey with plans to enter a separate development program next year for a new light armored assault vehicle replacement for the M551 Sheridan system. What makes no sense is that after a major market survey by the Marines, the Army with very similar requirements initiates another market survey for their own system. Earlier this year, I questioned this budget because of issues that just didn't make any sense. And Mr. Secretary, this just does not make sense!

Can you explain why any and all funding for both the Army and Marine Corps should not be held up in these tight budget times until the Army and Marine Corps can get together for a single total assault gun system to meet the requirements of both services?

Mr. Stone. The Army's current budget proposal begins funding the Armored Gun System (AGS) program in fiscal year 1992. The Army began an intensive review of the requirement for an AGS in late 1989 and the Army's market survey includes a review of the Marine Corps assault gun program and its application to our needs. The Army has reviewed the Marine Corps stated requirement for a new light armored assault vehicle and has determined that the roles and missions as well as the minimum acceptable deployability criteria were not acceptable to meet the Army's requirement for an AGS.

The most significant differences between the two system requirements lie in the method of deployment and in the primary means of employment. The Marine Corps system would be deployed by ship and heavy lift helicopter, while the Army's system would be deployed by tactical Air Force assets. The Marine Corps has stated that their vehicle must be swimmable and meet weight restrictions of 29,000 lbs. to meet heavy helicopter lift deployability limits. The Marine Corps system will be used to conduct reconnaissance, security, and economy-of-force operations, as well as other contingency missions.

The role of the Army's AGS is as a forced entry weapon system for use in military operations on urban terrain (MOUT). The Army's system will be used primarily in contingency force operations and must be designed to be low velocity air droppable (LVAD). The Army's system can weigh up to 35,750 lbs. This increased weight will allow the acquisition of a vehicle with increased protection levels, at least as good or better than those of the vehicle to be replaced. The primary means of delivery would be by C-130, C-141B, and C-17 aircraft. The Army's analysis of the Marine Corps candidate vehicles indicates that they would not meet minimum acceptable Army required operational capability (ROC) standards and thus would be unacceptable for use in Army contingency force operations.

There may be some commonality between the USMC systems and the Army's stated needs. The Army's market survey, with results to be briefed in early April to the AGS General Officer Steering Committee, will include whether the Marine Corps' candidate systems can be configured to meet the needs of the Army. Doctrinal, concept-based requirements, as well as operational employment, have driven both services to different requirements, and it would be premature to determine that one gun system could meet the requirements of both services.

LHX PROGRAM

Senator DIXON. In the February 26, 1990, issue of the Aerospace Daily, it was reported that the House Armed Services Committee study recommended that the "LHX program should be shifted to pursue the next generation of technology as a demonstrator program while continuing to build the AHIP and Apache helicopters at a low rate enough to sustain some helicopter production base and complete modernization of the force structure." This seems to be in line with former (Vice) Chief of Staff of the Army (and former Chairman, Joint Chief of Staff) Vessey's statement of February 2, before this committee when he called for skipping one generation in development. Could you please comment on these thoughts?

Mr. STONE. The light helicopter (LH) program is essential to retire the aging and obsolete light fleet of AH-1s, OH-58s, and OH-6s and achieve a combat effective downsized force with leap ahead lethality, versatility, and deployability. The shifting of the LH to a demonstrator program will not solve the major deficiencies of low reliability, minimal night or adverse weather capability, and poor flight performance which the aviation mission area analysis confirmed in 1982.

The purchase of additional Army helicopter improvement program (AHIP) and Apache helicopters is more expensive and will not provide the warfighting improvements which our combat forces need as we enter the next century. AHIP and Apache represent the technologies of the 1970s and earlier, and they lack the vital survivability (low radar and IR signatures), high agility/maneuverability/speed, high reliability, and supportability that LH will provide to the combat forces. This approach would be both inefficient and costly and not provide the needed technology to sufficiently modernize the revised force structure.

LH technology represents a major improvement over all existing helicopters. LH technology is being successfully demonstrated now to include integrated VHSIC processing, second generation Forward Looking Infrared Radar (FLIR), and helmet mounted displays. These advancements will be efficiently and effectively integrated in the highly survivably and lethal LH. The LH is the cornerstone for Army aviation modernization and is essential to meet the 21st century threat spectrum with a smaller and more capable force structure.

Senator DIXON. What will be the production gap that exists from the time the Apache production line shuts down until the LHX comes into the force? It appears there will be at least a 5- to 6-year gap in attack helicopter production. Does that seem prudent?

Mr. STONE. Apache received an appropriation in fiscal year 1990 to buyout the remaining 132 of the total 807. Current plans call for contract award in two phases, April 1990 and November 1990. Apache production will extend through December 1993. The first LH production delivery is planned for March 1996. The "production gap" is from December 1993 to March 1996, or 2 years and 3 months. However, it is likely that Apache sales to other governments will reduce the gap or result in no gap at all.

The total of 807 Apaches meets the Army's force structure requirements. It is not prudent to purchase above the 807 since these could be excess to Army requirements.

Senator DIXON. Looking at a comparison of the LHX and the Apache, it appears that LHX gives us 50 percent of the firepower for 75 percent of the cost. Why would the Army want to commit such a large portion of its procurement budget to a system that achieves only marginal capability over what you already have?

Mr. STONE. The LH will replace aging AH-1, OH-58, and OH-6 aircraft and complement, not replace, the AH-64. The LH will perform armed reconnaissance in light and heavy divisions, and attack missions in light divisions with an inherent built in air-to-air capability. The AH-64 was designed for the anti-armor role in heavy divisions and not for the armed reconnaissance mission. Specifically, the AH-64 relies on its stand-off target engagement capability to do its anti-armor attack mission. It is too big, lacks the necessary sensors, and is too costly to operate in the close-in environment that the LH will occupy. When operating together in heavy divisions, the LH and AH-64 provide an unmatched capability to find and destroy enemy ground targets.

The LH, incorporating 1990s technology, provides significant improvements in speed; agility and maneuverability; target acquisition; night pilotage; integrated nuclear, biological, and chemical protection; survivability (radar, IR, and visual signature reduction), electromagnetic interferance/pulse (EMI/EMP) protection; reliability; and supportability. All of these attributes will provide the Army with the aircraft it needs for the future to do armed reconnaissance for all divisions and the attack mission, replacing AH-1s and eventually Armed OH-58Ds, in light divisions.

Senator DIXON. Earlier estimates suggest the Army plans to commit in excess of $37 billion for LHX production. In order to keep the cost at $37 billion, you must enter into low rate production 2 years before completing full scale development. Also, you must produce LHX at a peak rate of 216 per year, considerably more than Apache or Black Hawk production. With all these risks, how do you plan to keep the total bill at $37 billion and not monopolize major portions of the Army's declining procurement budget?

Mr. STONE. The production cost for the baseline LH program, using fiscal year 1990 inflation guidance for escalated dollars, is approximately $39.0 billion. The Government will control these costs by securing production cost commitments from each contractor team during the full scale development (FSD) source selection and requiring the winning contractor team to manage their cost requirements throughout the life cycle for LH. The decision for 2 years of concurrency between low rate initial production and final completion of FSD is prudent and provides a smooth and logical transition from development to production. LH will be adequately tested in early unit test and experimentation (EUT&E) prior to initiating low rate initial production (LRIP). Without prudent concurrency, significant cost increase and initial operational capability (IOC) slippage would result. It must be emphasized that only 12 of 2,096 aircraft will be produced prior to the end of FSD. These early production aircraft will participate in the independent operational test and evaluation (IOT&E), which is the final FSD milestone.

The planned peak production rate of 216 per year is readily achievable, particularly given multiple production sources. LH will be the principal and dominant helicopter production program. When the Army was simultaneously procuring Apache, Black Hawk, CH-47D, and AHIP in the 1980s, annual combined production quantities considerably exceeded 300 aircraft per year during peak production, with a much larger relative funding requirement in constant dollars than required for LH.

HOMEPORT CONSTRUCTION

Senator DIXON. Your 1991 budget calls for the decommissioning of the battleships *New Jersey* and *Iowa*. Yet I do not see any plans to stop construction of the homeport at Staten Island, New York. In fact, given that the Navy is never going to reach 600 ships, why have you not recommended stopping the building of any homeports in this year's budget?

Mr. GARRETT. Changes have taken place which require us to revisit our shore infrastructure plans, including our strategic homeports.

As to why we have not stopped construction at New York, the new strategic homeport is virtually ready for its first ship. Construction contracts totaling approximately $221 million have been awarded, including regular and family housing military construction appropriations and local contributions.

In January 1990, we announced our plan to deactivate *Iowa*. On 5 February 1990, with our new facilities at New York rapidly nearing completion, we announced the change of homeport of U.S.S. *Normandy* (guided missile cruiser) from Norfolk to Staten Island. She is scheduled to arrive in August 1990 and will be the first ship at a new strategic homeport.

As to why we have not recommended stopping the completion of any strategic homeport in this year's budget, we are comprehensively evaluating the shore infrastructure as affected by recent events. It is safe to say, though, that some of our older, established facilities are nearing the end of their useful life, and we expect that extensive renovations and significant maintenance funds will be required. Recent years' funding shortfalls have affected proper operation and maintenance of the Navy's supporting infrastructure. Making premature decisions on our strategic homeports with modern facilities, specifically designed for some of our newer class ships, would not be prudent. Indeed, there are many complex factors to be considered in achieving a more modern, effective, and efficient shore establishment.

Additionally, strategic homeporting evolved from principles which are still applicable, even though we are not moving toward a 600-ship Navy. We want to disperse our forces to improve our defensive posture, improve training opportunities by homeporting in more diverse geographic locations, reduce travel time to potential areas of operation, collocate ships to form balanced battlegroups, maintain an adequate industrial base by placing ships near existing private sector industrial capability, and develop additional logistic support complexes to sustain our maritime strategy. The decision, therefore, to build strategic homeports was not based solely on the projected growth to 600 ships. New York was selected as a strategic homeport based on operational, industrial, and economic factors; we will take all of these into consideration as we determine our base structure.

Ensuring that the shore infrastructure is adequate, within available resources, to support the expected force levels and preserving the principles of strategic homeporting, is a significant challenge. To that end, a thorough review of the Navy's shore establishment, including the strategic homeports, is underway.

C-17

Senator DIXON. Your opening statement strongly supports the requirements to rapidly deploy combat power worldwide and highlights the C-17's ability to do that job. Over the long history of the C-17 program, some have contended other aircraft can accomplish the task. Would you care to comment?

Mr. RICE. Today's strategic airlift fleet is not shortfield capable and is restricted to main operating bases. The C-17 will be shortfield capable and will not be restricted to main bases. As a result it will operate into and out of three times the number of airfields and access forward airfields, thereby eliminating transshipment of forces and enhancing U.S. strategic flexibility. Only the C-5 can carry the Army's outsize battlefield equipment and no current U.S. strategic airlift aircraft can routinely airdrop outsize cargo. The C-17 will carry and routinely airdrop all outsize battlefield equipment. Our present fleet has limited ground maneuverability and requires manpower intensive maintenance. The C-17's tight turning and backing ability will use critical parking ramp space more efficiently than any current strategic airlifter. This, coupled with high mission reliability, allows the C-17 to deliver more combat power where it is needed.

Senator DIXON. We keep hearing rumors that the C-17 cannot fly unrefueled from Dover Air Force Base, Delaware, to Lajes Field, Azores, at its maximum cargo weight of 167,000 lbs. Is this true?

Mr. RICE. No. That is not true. The air distance from Dover to Lajes is 2,234 nautical miles and this is the longest leg in airlift. The aircraft can carry 167,000 pounds 2,336 nautical miles.

Senator DIXON. The C-17 program has had problems which have resulted in the slippage of the first flying date. Are these problems under control and what is the scheduled first flying date?

Mr. RICE. Douglas Aircraft Company (DAC) experienced difficulties with the development of two of the C-17 electronic components, the flight control system, and the mission computer. This resulted in a slip of the first flight from August 1990 to June 1991. DAC changed subcontractors on the flight control system and is now ahead of the new schedule. DAC has taken a stronger role in managing the mission computer subcontractor and the program shows substantial progress. Resolution of these problems will enable complete assembly of the first test aircraft by December 1990.

Senator DIXON. We have heard testimony on the peace initiatives around the world and the recommended drawdown of units in Europe. Given these factors, have the requirements for rapid airlift been reduced?

Mr. RICE. If U.S. forces return from Europe, mobility requirements will be greater. Despite the reduced threat in Europe, requirements for airlift to support our commitments throughout the world continue to exceed our capability. Increased warning time could allow fast sealift to meet some of those mobility requirements. However, to give our leaders the time they need to pursue all non-military options before moving forces to Europe, a very capable airlift fleet is needed. We must have a credible capability to respond to regional conflicts whenever and wherever our national interests are threatened. Our current fiscally constrained program and goal of 66 million-ton-miles per day with 210 C-17s offers a significant increase in rapid response capability.

F-15

Senator DIXON. The F-15E is today the most capable air superiority fighter in the U.S. Air Force, as well as the most capable night, all-weather deep strike aircraft. The administration's budget calls for the termination of F-15E production after 1991 leaving the Air Force 192 planes short. Do you think this is a wise move given the fact that the replacement for the F-15E, the Advanced Tactical Fighter (ATF), is not scheduled for full production until the late 1990s?

Mr. RICE. The ATF and the F-15E are being procured to fill two different mission areas. The ATF will replace the F-15A-D air superiority aircraft, not the F-15E. The first F-15A/B unit became operational in July 1975, while the last F-15C/D aircraft were procured in fiscal year 1986. Many of these F-15s are already over 15 years old and will need to be replaced in the late 1990s. The ATF fills this requirement.

The F-15E is being purchased as a dual role fighter, capable of providing long range interdiction while retaining the excellent air-to-air capability of the F-15. The F-15E was developed to complement the F-111 in the long range interdiction mission, but by retaining the F-15 air-to-air capability, provides the joint force commander with the flexibility to increase his air-to-air capability if required. The Air Force originally planned to procure 392 F-15Es, but because of affordability, reduced the buy to 200 aircraft.

We are developing the Advanced Tactical Aircraft (ATA), a variant of the Navy's A-12, to replace the F-111. As the ATA replaces the F-111, the F-15E will complement it in the long range interdiction role. We currently anticipate replacing the F-15E with the ATA.

Due to the recent events in the Soviet Union and Eastern Europe, we are reassessing the threat and the target base to determine if we have an interdiction shortfall.

COST OF ATF PROGRAM

Senator DIXON. The ATF program is said to cost some $54.6 billion for 750 airplanes. Do you really think, given the defense budget reductions, that Congress is going to buy 750 of these planes?

Mr. RICE. The Air Force goal is to replace the F-15 one-for-one with the ATF. The current tactical fighter force has seven wings of F-15s (six active and one Air National Guard). One tactical fighter wing requires 100 aircraft to properly support wing requirements. Therefore, 700 ATFs are required to replace the current F-15 force. The additional 50 aircraft are for attrition. The size of the tactical force structure is currently under review. The requirement for ATFs will be adjusted to meet the results of this review.

F-15

Senator DIXON. Last year this committee asked for a report on the technical progress of the ATA and a certification that there are no technical or performance problems that would delay introductions of the ATA. When can the committee expect to have this report?

Mr. RICE. The Air Force is responding to this question through OSD. The OSD point of contact advises us that the report has been completed and should be available by the end of April.

Senator DIXON. I read in Defense News of February 26, 1990, that "the mission and design of the Air Force's planned Advanced Tactical Fighter Plane would be radically changed under a scheme proposed by Department of Defense planners, sources say." Given the changes in the ATF delay in the program, don't you think we should find additional F-15s in this budget?

Mr. RICE. No. The ATF is being developed as a replacement for our F-15A-D air superiority aircraft. The only F-15 currently in production is the F-15E. Although the F-15E retains the air-to-air capability of the F-15A-D, its primary role is long-range interdiction, not air superiority. The ATF on the other hand, is being developed to perform the counter air mission similar to the F-15A-D. Because the F-15E and ATF perform separate missions, ATF development should not be linked to F-15E procurement.

QUESTION SUBMITTED BY SENATOR JOHN GLENN

M-1 TANKS

Senator GLENN. The Chairman of the Joint Chiefs of Staff testified before this committee earlier this month that although the Soviets have reduced their tank production by half, ". . . they continue to out produce us." For the past several years, Army witnesses have expressed concern to this committee over the imbalance between the Soviet and U.S. armor/antiarmor capabilities. As you know, this year's budget proposed to terminate all tank production in this country after fiscal year 1991 for at least 5 years. With the Soviets continuing to produce tanks and upgrade their armor/antiarmor capability, how do you assess the risk to our battlefield combat capability without having a viable industrial base to produce or upgrade U.S. Army tanks?

Mr. STONE. Certainly, there is a risk inherent in the decision to terminate tank production until the advent of Block III. The alternative, given our projected funding levels in the near term, was to cancel 10 or more other major programs. After

carefully evaluating the overall risks, we determined it was essential to keep a balanced program and accept the near- to mid-term risk of terminating tank production.

Although the Soviet Union will continue to modernize over the long term, revised estimates indicate their modernization may take longer and be accompanied by additional force reductions. The current world situation would indicate that we are in a period of reduced Soviet threat for the next several years. Given the reality of this reduced threat, we have assessed our current and future tank needs and decided to concentrate on the future rather than produce a tank sufficient only for the mid-term.

Within the fiscal year 1991 funded delivery period, we plan to continue production of the M1A1 until mid-1993 to meet U.S. Army and foreign military sales program requirements. At the end of this production, the U.S. Army will have over 7,700 M1s and M1A1s on hand. This will include over 2,200 M1A1s with depleted-uranium armor protection. These are sufficient to meet the needs of our first-to-fight forces. Development of M1A2 will be completed and 62 M1A2s will be produced for the Army. This will validate the production line in early 1993 and provide systems for operations test and evaluation. It will also provide an opportunity to continue or restart M1A2 production at any time during the 1990s if the threat situation changes.

Our goal is to have a balanced force composed of tanks and other combat systems capable of supporting both light and heavy force needs to meet global contingencies. Our antiarmor capability for the 1990s will include TOW 2B, AAWS-M, Longbow, and Hellfire as well as our armament-enhanced Abrams tanks.

Questions Submitted by Senator John W. Warner

Operation Just Cause and Contingency Operations

Senator Warner. Operation Just Cause has been cited as an example of a successful contingency operation, but also stated that future contingencies may not be of this same type. Please explain your impressions and share your opinion on the lessons learned from Just Cause.

Mr. Stone. Operation Just Cause was flawlessly planned and conducted. The operation demonstrated many of the traditional capabilities of the U.S. Army in responding to contingencies in peacetime. It also provided us with the opportunity to validate, under fire, many of the new, modernized systems in use in the military today. Suffice it to say, the equipment performed as advertised. The National Command Authorities' objectives were achieved rapidly and efficiently. Just Cause was a success. The Army proved its contingency capability through multiple, simultaneous airborne, airmobile, and ground operations using both special operations and conventional forces and conducted both during the day and night with equal professionalism. The Army modernization program, rigorous training, tough standards, and quality soldiers saved lives in Panama—a factor which can be directly attributed to the adequate funding the Army has received in the Personnel, Operations and Maintenance, and Research, Development and Acquisition accounts in the past.

Many observations have already been made about Operation Just Cause—both official and unofficial. The Army's Training and Doctrine Command has been directed to conduct an official review of the operation and provide a formal report to the Department for approval by the end of May 1990. Their report will consist of a historical chronology, lessons learned, and recommendations. The Army will use this report to determine if any changes are required in force structure, materiel, doctrine, training, or leader development.

Regarding different types of contingencies, Army doctrine describes several different types of contingencies in which the Army could be involved besides the type encountered in Panama. Peacetime contingency operations include but are not limited to: shows of force, non-combatant evacuation operations, rescue and recovery operations, strikes and raids, peacemaking, unconventional warfare, disaster relief, security assistance surges, and support to civil authorities. Recent U.S. military actions, such as our support to U.S. and foreign counternarcotics plans, Hurricane Hugo, and San Francisco earthquake disaster relief operations, require many of the capabilities, less combat, that the Army has always possessed.

The principal difference between Just Cause and other contingencies which may in the future arise is that the United States has both forward deployed forces and infrastructure in Panama. This simplified the force entry process, aided in intelli-

gence and surprise, and provided a present, knowledgeable source of information on the area of operations. This may not be the case in future combat contingencies.

MH-47E REQUIREMENT

Senator WARNER. A recent GAO report prepared for Senator Roth indicates that the Army has no sound mission-based justification for the procurement of 34 special forces MH-47E helicopters beyond the 17 approved by the Office of the Secretary of Defense. The report continued that the Army could save approximately $500 million by eliminating this requirement. Have you seen this report and do you plan to re-evaluate the requirement for the 34 additional aircraft?

Mr. STONE. I have seen the report and my office approved the Army input for the strong DOD non-concurrence with the main finding and recommendation of the report.

Since December 1988, the OSD approved procurement for the MH-47E has been 51 as opposed to 17 aircraft. The 51 Army MH-47Es are to be combined with 41 Air Force MH-53Js. This will provide a total of 92 aircraft that are to be applied against the original special operation forces (SOF) medium/long range vertical lift requirement of 106 aircraft (17 MH-47E, 41 MH-53J, and 55 CV-22A). The baseline for this requirement was established in the 1986 OSD SOF airlift study. While a fleet of 92 Army and Air Force helicopters cannot meet all of the missions, as well as those originally designated for the CV-22A, it does provide us with an acceptable minimum capability to insert, resupply, and extract our SOF units until a new generation vertical lift platform is developed and fielded for SOF. As a result of the CV-22A decision, a follow-on SOF vertical lift platform will probably not appear until well into the next century.

The Army does not plan to re-evaluate the requirement for the 34 additional aircraft. By congressional mandate, determination of SOF requirements are now done by Commander in Chief, Special Operations Command. General Lindsay is in the process of validating his requirements through a joint mission analysis (JMA). The JMA is an intensive 2-year effort to update each theater's requirement for SOF, to include airlift. Completion of the JMA is anticipated during fiscal year 1991. It would not be prudent to make an irreversible programmatic decision prior to the completion of this process.

REPROGRAMMING

Senator WARNER. Last year Secretary Cheney elected not to recommend to the President that the President exempt personnel from sequestration. Once that decision was made, OSD and the military services should have started taking the necessary actions to reduce personnel expenditures. Were those actions initiated? If not, why not?

Mr. STONE. The total military personnel, Army (MPA) appropriation shortfall was $649 million. Three hundred thirty-eight million dollars of that total amount is due to the sequestration, $216 million for specified congressional reductions, and $95 million for programs that have been authorized but not appropriated. The Army has taken action to reduce personnel expenditures by $417 million. End strength was reduced by over 20,000, and programmatic reductions were made to permanent change of station moves, subsistence, and operational rations. The reprogramming request is for the additional $232 million.

Senator WARNER. It is now apparent that the personnel reprogramming request has little chance of being approved. The Army is taking the necessary steps to ensure that spending rates for the personnel accounts will not exceed the amount appropriated.

Mr. STONE. Contingency plans have been developed that will require a PCS freeze, involuntary 90-day enlisted early release program, officer and enlisted promotion freeze, and an additional end-strength reduction of over 22,000. The plans have not been implemented, awaiting final approval or denial of some or all of the proposed reprogramming. The longer it takes to determine final disposition of the reprogramming, the more severe the steps necessary to ensure the personnel accounts will not be exceeded.

ENVIRONMENTAL FUNDING

Senator WARNER. The request for defense environmental restoration action (DERA) funds for fiscal year 1991 has increased over the amount appropriated for fiscal year 1990 (fiscal year 1990: $601 million; fiscal year 1991: $817 million). The missing part of environmental funding is the funds critically needed to accomplish

environmental cleanup and restoration on military bases proposed for closing by the Base Closure Commission and approved by Congress. In many cases, the projected sales, income, schedule, and progress are being delayed for lack of cleanup funds. Does the increase ($416 million) in the base closure account for fiscal year 1991 (fiscal year 1991 total: $917 million) correct some of these environmental bottlenecks?

Mr. STONE. No. The fiscal year 1991 base closure account includes no funds for restoration of installations recommended for closure by the Base Closure Commission. The Commission considered cleanup of sites to be covered under the DOD Environmental Restoration Program; however, the majority of Army installations being closed do not meet the "worst first" criteria and do not qualify for DERA funds. Therefore, the Army will use its own resources to perform all necessary restoration activities. The increase in the base closure account request results from DOD reevaluating its requirements as directed by the House Appropriations Committee in report 101-176. The committee recognized that proceeds from land sales cannot be realized until construction at gaining installations is completed, and people and equipment are moved. Since these receipts would not occur until the latter part of the schedule, the committee realized that substantial appropriated funds would be required up front to finance the realignments and closures and that the fiscal year 1991 budget request of $500 million may be unrealistically low to effect timely closure of bases.

OPERATING TEMPOS AND COUNTERNARCOTICS ACTIVITIES

Senator WARNER. In the service operating tempos given in the DOD posture statement for the military services, the flying hours, the steaming days, and the other measures are stated. In another section, they discuss the counternarcotics activities for the DOD. They also include the same activities. Do the service operating tempos include the counternarcotics activities? If they do, what is that portion? If they do not, what are they?

Mr. STONE. Forces Command has identified training tasks which have a direct relationship to unit mission essential task list (METL) and wartime missions, which can be accomplished in conjunction with counternarcotics operations. These training tasks common to unit training and counternarcotics activities equate to 6 battalion field training exercises (FTX) in fiscal year 1990 and 12 in fiscal year 1991. Forces Command is funded to conduct these FTXs as part of their P2 mission optempo. Unique tasks performed and expenses incurred for counternarcotics activities must be provided by sources other than P2 mission.

Counternarcotics flying hours are included within the scope of optempo hours. They are tracked separately for funding purposes. The Active component is resourced at 14.5 hours per crew per month. Forces Command has a 26,000 hour counternarcotics program out of approximately 355,000 hours. U.S. Army South has 2,300 hours out of a total program of 27,000 hours. Western Command has 500 hours out of a total program of 27,000 hours.

Senator WARNER. Do the current (fiscal year 1990) and/or projected levels for fiscal year 1991 of counternarcotics activities impact military readiness?

Mr. STONE. To date, the counternarcotics activities have had minimal impact on total Army readiness.

The Army is presently supporting counternarcotics activities in over 50 major locations in the United States and around the world. In the continental United States these activities are conducted by personnel and equipment in relatively close proximity to their parent units. For example, the Army's counternarcotics activities in Texas are conducted in a large measure by personnel and equipment from units stationed in Texas. It is the same in the other States. As a result, these assets would be easily retrievable if any units suddenly received wartime missions.

The Army is also involved in counternarcotics activities outside the continental United States. So far, however, the quantities of personnel and equipment involved have not significantly impacted on any unit's overall readiness.

The level of training in the Army remains the same. Personnel and equipment come from many different units which minimizes the impact on any one unit. As a result, commanders have been able to maintain the same level of training readiness which existed prior to their involvement in counternarcotics activities. In some cases unit training readiness may be increased. National Guard personnel, for instance, still attend monthly drills in addition to their counternarcotics activities.

In fiscal year 1991 we expect a 25 percent increase in activities over fiscal year 1990. It is too early to project if this increase will affect specific units and their readiness. However, it is anticipated that it will not impact on total Army readiness.

The Army remains committed to the counternarcotics effort and will support the Department of Defense to the maximum degree possible.

ROLES AND MISSIONS

Senator WARNER. As we structure our military forces, I believe that we should take this opportunity to conduct at least a review of the roles and missions of the military departments. Do you see any value to be gained from such a review?

Mr. STONE. No, I do not. The Joint Staff and the services conducted a thorough review of service roles and missions. This was done under the personal supervision of Admiral Crowe. This review concluded that the "roles of the Armed Forces as crafted in law were fundamentally sound." The functions of the Armed Forces contained in DODD 5100.1, "Functions of the Department of Defense and its Major Components," ". . . remain basically sound but in need of revision and updating . . . ." This report was forwarded by General Powell to the Secretary of Defense on 2 November 1989. Secretary Cheney is still studying the recommendations contained in the report.

REVIEW ROLES AND MISSIONS

Senator WARNER. Are there any areas which you might identify to help ensure that we eliminate, or at least minimize, unnecessary duplication among the services?

Mr. STONE. As I said in answering the previous question, this issue has been recently studied and is under advisement by the Secretary of Defense. I think the recommendations contained in the report are fundamentally sound. I am sure Secretary Cheney will make those revisions which do eliminate unnecessary duplication among the services. As you are aware, he has not hesitated in the past to make those hard choices. The Army has made its views known to the Secretary. Until he has made those decisions I would prefer not to go into greater detail. However, I would like to again point out that roles and functions as contained both in law and in DODD 5100.1 remain fundamentally sound. There is no need for major revisions.

TACTICAL BALLISTIC THREAT

Senator WARNER. With the increased proliferation of tactical ballistic missiles along with chemical, biological, and some nuclear capabilities in the Third World, I would like to hear your assessment of the threat you perceive for your particular service. What steps should be taken to cope with this threat?

Mr. STONE. Intelligence indicates that approximately 20 developing nations have or are acquiring tactical ballistic missile systems with ranges from less than 100 to over 2,000 kilometers. Large numbers have been employed with varying effect in the war between Iran-Iraq and in Afghanistan. Certain nations are known to have missiles with chemical warheads. Other nations have both chemical weapons and tactical ballistic missiles, and could conceivably combine the two. Still other nations have the capability for developing nuclear and biological warheads.

Combining the expected proliferation of developing nations seeking, developing, and possessing tactical ballistic missiles, with the growth in missile accuracy, range, and lethality, tactical ballistic missiles could represent a major threat to U.S. operations anywhere in the world.

The Army has a requirement for a tactical missile defense (TMD) capability for protection of U.S. forces against tactical ballistic missiles with conventional, chemical, and biological warheads (CBW) being fielded by the Soviet Union and developing nations. A JCS Statement of Operational Requirements specifies a combination of; (a) passive defenses; (b) active defense capabilities; (c) attack capabilities to kill launch systems on the ground; and (d) command, control, communication and intelligence (C^3I). The Army's TMD capability must be readily deployable to support contingency forces as well as to reinforce NATO.

The Army has a number of systems deployed or under development to neutralize the tactical ballistic missile threat:

(a) Patriot is the only weapon system fielded in the free world today with a tactical missile defense (TMD) capability. Patriot anti-tactical missile capability level one (PAC-1) was fielded in 1988. PAC-1 included (1) software modifications that enable the Patriot radar to detect tactical ballistic missiles, and (2) a self-defense capability for Patriot fire units against attacking tactical ballistic missiles. Patriot anti-tactical missile capability level two (PAC-2) is planned for fielding in 1991, and includes missile modifications to increase lethality and expand the defended area.

(b) A Patriot-Hawk interoperability program will provide the Hawk limited capabilities to engage missiles in flight.

(c) The Army is developing further TMD improvements to Patriot beyond PAC–1 and PAC–2 capabilities.

(d) The Army is also considering concepts under development by the Strategic Defense Initiative Office (SDIO). The Army's Strategic Defense Command (SDC) is coordinating a technology demonstration of the extended range interceptor (ERINT) and has initiated a theater high altitude area defense (THAAD) program. Only after a trade-off analysis between Army and SDIO concepts will a preferred concept be selected for future fielding.

(e) SDC is also managing the Israeli Arrow program for SDIO.

While the Army's efforts were initially focused on the Soviet/Warsaw Pact threat, the Army is increasingly placing emphasis on the growing developing nation tactical ballistic missile problem. The Army has requested a contingency force defense system (weapon, sensor, and C^3) be accorded the highest priority for SDIO-sponsored research for tactical missile defense systems.

The Army is preparing to release a requirements document which establishes the requirement to provide a missile defense for critical assets, including lodgement areas, in contingency theaters. The Army's air defense modernization plan includes programs to provide strategically deployable, tactically mobile air defense systems with missile defense capabilities.

Research efforts are underway to develop measures to destroy chemical and biological warheads on enemy tactical missiles. SDIO research into kill mechanisms against strategic nuclear warheads will be evaluated for theater defenses.

Passive defense measures such as early warning, camouflage, concealment, deception, and protective devices are being evaluated for capabilities to reduce the vulnerability of U.S. forces and equipment.

A number of tri-service deep attack programs have capabilities to attack missile launch systems on the ground and are being evaluated in that mode.

C–17

Senator WARNER. What is the rationale from the Army's point of view for the C–17?

Mr. STONE. The Army has a strategic mission to protect U.S. vital interests around the world and to support its coalition-based strategy. A rapid Army power projection capability is central to a credible deterrence and the execution of our national military strategy. Recent events in Panama and current trends in the international environment make it clear that rapid deployment will become even more important for future contingency operations. The unique capabilities of the C–17 are critical to the Army's global strategic mission.

Senator WARNER. What capabilities does the C–17 have that justify the cost?

Mr. STONE. The C–17 has several unique capabilities that are not available in our current airlift fleet. The C–17 can fly intercontinental ranges and direct deliver soldiers and equipment into small, austere airfields with runways 3,000 feet by 90 feet. This capability provides access to more than 6,000 additional airfields in the free world that are not accessible by the C–5 or C–141 aircraft. The C–17 can also transport outsized Army equipment such as the Apache helicopter, multiple launched rocket system, and the infantry fighting vehicle in near ready-to-fight configuration. The rapid delivery of mobile, high precision, high volume firepower at critical times and places can compensate for an infavorable force ratio or provide additional combat power for light infantry and airborne forces. As the proliferation of sophisticated weaponry increases around the world, the ability to transport outsized equipment becomes more critical. Additional capabilities of the C–17 include combat offloading; dedicated satellite communications hook-up for the ground force commander; and low velocity airdrop or low altitude parachute extraction of loads up to 60,000 pounds (current capability is only 42,000 pounds).

The unique capabilities of the C–17 are critical warfighting needs—not merely aircraft enhancements. The C–17 could mean the difference between victory and defeat during future conflicts.

Senator WARNER. Should we seek any less costly alternative?

Mr. STONE. The most likely future threats are regional and Third World conflicts that could occur with little or no warning. Given this scenario, the Army needs both airlift and fast sealift. Operational circumstances will dictate which mode is best. Airlift is the most flexible, responsive component of the strategic mobility triad. It provides the capability for the rapid build-up and emergency sustainment of combat forces. If we are unable to generate a favorable force ratio during the initial stages

of conflict, we may never achieve victory. Additionally, a robust airlift capability is required regardless of the amount of POMCUS or prepositioned equipment. Soldiers and equipment that cannot be effectively stored (such as radars, fire direction control, intelligence/electronic warfare, and aviation assets) must be airlifted to equipment link-up sites.

Senator WARNER. If Congress gave you the money we will spend on the C-17 to the Army and told you to buy the airlift you need, and keep whatever amount of money you could save for Army programs, would you still buy the C-17?

Mr. STONE. I have already emphasized the importance of airlift and the unique C-17 capabilities to the Army's global strategic mission. Eighty percent of the current airlift fleet is over 20 years old. The C-17 is the only existing airlift modernization program and a critical part of the strategic mobility solution. The Army wants the C-17, but I remind you that the USAF is the manager and provider of airlift for the Army.

SEAWOLF SUBMARINE

Senator WARNER. The *Seawolf* submarine program calls for procurement of two submarines in fiscal year 1991. What is the status of this program? Is the ship design on schedule? Is the combat system development proceeding on schedule?

Mr. GARRETT. Ship design is on schedule and continues to support lead ship construction which began in October 1989. *Seawolf* is over 7 years into a 13-year process to deliver a ship that will maintain our undersea superiority well into the 21st century. The detailed *Seawolf* contract design has been ongoing for more than 2 years at Newport News Shipbuilding, which is the lead yard for detailed design. Electric Boat Division is the propulsion plant design yard and is also a major subcontractor to Newport News Shipbuilding for detailed design. Detailed design continues to be on schedule to support lead ship construction requirements. A contract for construction of the lead ship was competitively awarded to Electric Boat Division in January 1989. Construction began in October 1989 and is proceeding at Electric Boat with no problems encountered to date.

The AN/BSY-2 Submarine Combat System is proceeding on schedule to meet required delivery dates. During the past year, combat system design reviews were completed, and the detailed design baseline has been approved. Additionally, the critical interface between the combat system and the ship has been defined and stabilized.

Senator WARNER. The Navy has requested authority to reprogram $178 million into the *Seawolf* program. What are the potential implications if Congress fails to act on this matter for several more weeks or months?

Mr. GARRETT. The remaining obligational authority for the lead ship is critically low and some scheduled efforts have already been postponed. It is important that the reprogramming action be approved as expeditiously as possible in order to avoid cost growth and schedule delays.

BUDGET PRIORITIES

Senator WARNER. Some budget decisions affecting fiscal years 1992 through 1994 have not yet been released—and I am not asking you to violate any confidences—but I would like to understand better what you believe our priorities should be. What priority, in relative terms, do you place on:

—maintaining the number of aircraft carriers;

—building new ships, such as the DDG-51 and SSN-21;

—continuing to operate two battleships;

—and opening new homeports in New York and elsewhere?

Mr. GARRETT. Specific DOD program priorities for fiscal year 1992 and beyond are still being developed based on the planning guidance recently released by Secretary Cheney. However, certain strategic underpinnings are already apparent. In the new world which is emerging, the projection of power to support national interests becomes a more complex undertaking. In our context, power projection is provided through air power, amphibious forces, and physical presence overseas. Likely changes in the world order make overseas basing an almost overwhelming challenge. These factors mandate that our future forces be mobile, flexible, well-manned, well-trained, well-equipped, and able to respond rapidly and with a sufficiency of strength to challenges to our national interest.

In my view, the naval force required for the future must be composed of a minimum of 14 aircraft carrier battle groups. Keeping this force modern (and keeping the industrial base viable) will mean maintaining an average of 17-18 new construction ships a year. Shore gunfire support must be preserved in order to protect our

amphibious assault capability. Given that the United States is an island nation, critically dependent upon sea trade for our economic survival, it is essential that we maintain naval forces adequate to ensure freedom of the seas and to protect our national interests around the world.

PERSONNEL REPROGRAMMING

Senator WARNER. Last year Secretary Cheney elected not to recommend to the President that the President exempt personnel from sequestration. Once that decision was made, OSD and the military services should have started taking the necessary actions to reduce personnel expenditures. Were those actions initiated? If not, why not?

Mr. GARRETT. In October 1989, the entire Department of Defense provided assessments of the initial impact of uniform sequestration. An array of plans addressing partial through full sequestration was developed by the Department of the Navy. All actions necessary to meet the various levels of sequestration were evaluated and prioritized. Some of these initiatives included: end-strength reductions, reduced accessions, selective early retirements, cancellation of officer candidate classes, delayed commissioning of officers, cancellation of warrant officer appointments, freezing promotions, delaying/cancelling permanent changes of station, eliminating selected reenlistment bonuses, and voluntary and involuntary early outs. Rephasing new accessions reduced expenditures early in 1989, blunting some sequestration impact, but left a shortfall of $285 million for Navy military personnel accounts and $245.7 million for Marine Corps personnel accounts. Recognizing the short- and long-term impact (retention, morale, trust, and confidence) of implementing some or all of the listed personnel management actions to make up this deficit, the Navy recommended to the Secretary of Defense that a reprogramming request be forwarded. The Secretary of Defense approved the request and advised Congress.

Senator WARNER. It is now apparent that the personnel reprogramming request has little chance of being approved. Is the Navy taking the necessary steps to ensure that spending rates for the personnel accounts will not exceed the amount appropriated?

Mr. GARRETT. Navy has already shifted $132 million within the MILPERS account to pay for new entitlements which were authorized but not funded by Congress in fiscal year 1990 (increased ACIP, increased dislocation allowances, etc.). In order to accommodate these programs and to save money, recruiting plans were rephased so that people are entering the Navy much later this year than originally planned. This will lead to some fleet undermanning and school underutilization, but the impact will not seriously affect fleet readiness if they are the only negative actions to be taken. These actions also removed most of Navy's flexibility to take additional cuts without severely and adversely impacting personnel stability and fleet readiness.

Navy has taken no additional actions to reduce personnel account spending. All of Navy's spending plans are predicated on full congressional approval of the $285.1 million reprogramming request. In order to accommodate new authorizations or unforeseen changes, the Navy personnel account has requested and received reprogramming authority for almost every year since 1985. For 1990, Navy's request was approved by the Secretary of Defense on 24 January 1990, and was submitted to Congress on 29 January 1990 in the President's budget for 1991. Navy continues to execute personnel plans at levels which reflect those submitted in the President's budget.

The Marine Corps is executing fiscal year 1990 manpower programs with the assumption that the requested reprogramming will be approved. The Marine Corps' plan for absorption of the $85.7 million in fiscal year 1990 will require draconian personnel actions which would have major, long-term impacts on the quality and readiness of the corps should reprogramming not be approved.

ENVIRONMENTAL FUNDING

Senator WARNER. The request for defense environmental restoration account (DERA) funds for fiscal year 1991 has increased over the amount appropriated for fiscal year 1990 (fiscal year 1990: $601 million; fiscal year 1991: $817 million). The missing part of environmental funding is the funds critically needed to accomplish environmental cleanup and restoration on military bases proposed for closing by the Base Closure Commission and approved by Congress. In many cases, the projected sales, income, schedule, and progress are being delayed for lack of cleanup funds. Does the increase ($416 million) in the base closure account for fiscal year 1991

(fiscal year 1991 total: $917 million) correct some of these environmental bottlenecks?

Mr. GARRETT. The base closure account does not include any funds for environmental cleanup. Cleanups will be funded by the defense environmental restoration account or by O&M,N funds where DERA funding is not available.

OPERATING TEMPOS AND COUNTERNARCOTICS ACTIVITIES

Senator WARNER. In the service operating tempos given in the DOD posture statement for the military services, the flying hours, the steaming days, and the other measures are stated. In another section, they discuss the counternarcotics activities for the DOD. They also include the same activities. Do the service operating tempos include the counternarcotics activities? If they do, what is that portion? If they do not, what are they?

Mr. GARRETT. Yes, present optempo steaming day and flying hour goals include support for counternarcotics activities.

Beginning in fiscal year 1991, however, the Navy topline does not contain resources to fully fund optempo goals for the non-deployed forces. The balance of resources necessary to meet the Navy's optempo goals will come from the centralized counternarcotics account, to be managed by OSD.

The optempo goal for non-deployed ships is 29 days per quarter and for aircraft is 87 percent PMR. In fiscal year 1991, the OSD managed part of optempo equates to approximately 3.2 days of Navy ship days and an average of 4 percent PMR for flight hours to be used specifically for anti-drug efforts.

So in fiscal year 1991 all funding necessary to meet our stated optempo requirements is not within the Navy's budget.

Senator WARNER. Do the current (fiscal year 1990) and/or projected levels for fiscal year 1991 of counternarcotics activities impact military readiness?

Mr. GARRETT. The Navy's expanded counternarcotics operations have not been in place for a sufficient length of time to allow an accurate assessment of the readiness impact; however, no measurable impact has been reported. In the long run, it is probable that some warfare skills will be affected.

The training conducted by Navy ships and aircrews while on counternarcotics operations clearly enhances some aspects of readiness, but these operations do not afford opportunities to train in all warfare areas. At the same time, counternarcotics operations compete for the same assets (ships, aircraft, fuel, bases, and staff) needed to sustain battlegroup readiness across the warfare spectrum. With decreasing force levels and expanded anti-drug operations, only the highest priority requirements, including detection and monitoring operations, overseas forward deployments, and essential unit and battlegroup training, can be filled. These higher priority requirements are filled at the expense of some proficiency training through independent operations, tailored exercises, and other readiness-related activities.

Marine Corps participation in counternarcotics activities has had a positive impact on readiness and has enhanced its ability to perform other mandated missions. Combat capabilities are significantly enhanced by the realistic training provided in actual anti-drug operations as opposed to routine exercises. Our forces benefit from exercising small unit patrolling and surveillance tactics while working with remote ground sensors and remotely piloted vehicles (RPV) and from conducting aerial surveillance using both aircraft and radars in a real-world environment. Providing support to combat units conducting missions away from familiar military training areas challenges combat service support as well and provides valuable insights into logistics supportability problems attendant to special operations and low intensity conflict. In summary, counternarcotics operations have provided the Marine Corps with training realism and challenges difficult to duplicate in exercises. Better prepared forces will result from their continued involvement in the counternarcotics mission.

STRATEGY AND FORCE POSTURE

Senator WARNER. As we structure our military forces, I believe that we should take this opportunity to conduct at least a review of the roles and missions of the military departments. Do you see any value to be gained from such a review?

Mr. GARRETT. The services, with the Joint Staff, recently completed a comprehensive study of the roles and functions of the Armed Forces. The study, required by Title 10, United States Code, as amended by the Goldwater-Nichols DOD Reorganization Act of 1986, was aimed at identifying and eliminating duplication, and clearly defining the division of responsibility among the services. The study resulted in the elimination of a number of redundant service responsibilities, such as air-to-air

refueling and sea surveillance. I believe that another comprehensive review of military roles and functions is unnecessary at this point. We will, however, continue to look for opportunities to improve the productivity and effectiveness of our forces.

REVIEW OF ROLES AND MISSIONS

Senator WARNER. Are there any areas which you might identify to help ensure that we eliminate, or at least minimize, unnecessary duplication among the services?

Mr. GARRETT. The assignment of missions and functions to the Armed Forces by Title 10, U.S. Code and DOD Directive 5100.1 ensure that each service is responsible for developing primary and collateral capabilities essential for joint operations in both peace and war. These assignments are designed to avoid unnecessary duplication and yet provide for necessary redundancy and interoperability. There is undeniable duplication in capabilities, but upon close examination it can be seen that the forces providing the capability are generally complementary rather than duplicative. Two possible service roles and functions have been identified for further study. They are close air support and space. DOD reviews of these areas, now in progress, may point to a further modification to current service roles and functions. However, it is premature to speculate on actual changes which may occur as a result of these studies.

AREA DEFENSE

Senator WARNER. With the increased proliferation of tactical ballistic missiles along with chemical, biological, and some nuclear capabilities in the Third World, I would like to hear your assessment of the threat you perceive for your particular service. What steps should be taken to cope with this threat?

Mr. GARRETT. There has unquestionably been a significant increase in the number of countries capable of employing tactical ballistic missiles with nuclear, chemical, or biological capabilities. But, because of their mobility, naval forces at sea are difficult to locate and target with ballistic missiles. Consequently, we are not working on a fleet area defense against these weapons. In terms of defense against chemical and biological warheads, the Navy has increased the emphasis on the ability of ships to be able to operate and sustain operations in that environment. DDG–51, among others, has a state-of-the-art, collective protection system as an integral part of its ship design.

C–17

Senator WARNER. Recent publicity questions the ability of the C–17 to carry the specified payload of 167,000 lbs. a required distance of 2,400 nautical miles. Would you comment on this controversy and address the seriousness of the situation?

Mr. RICE. At the current projected operating weight empty, the aircraft can carry 167,006 pounds 2,336 nautical miles, which is 64 miles short of the specification requirement. However, the prime contractor has an aggressive weight management program that should yield sufficient weight savings to meet the maximum payload/range specification of 167,006 pounds/2,400 nautical miles.

Senator WARNER. In your statement you strongly support the requirement for production of the C–17 aircraft. Would you state for the committee the most compelling reasons for this need and address your best understanding of the true unit cost?

Mr. RICE. We need the C–17 in order to meet airlift mission requirements and to modernize our airlift fleet. Because of today's changing environment, we will face the future with reduced forward basing. This will increase our requirement for strategic and theater flexibility, rapid deployability, and enhanced rapid force projection—capabilities only the C–17 can provide. For example, many of our potential areas of operation are in the Third World where there is little infrastructure to support Air Force airlift operations. The success of our endeavors in these areas will depend upon assets that can provide rapid, flexible response independent of forward bases.

We also need the C–17 to begin replacing the C–141, the backbone of today's airlift fleet. With a fleet average flying time of over 31,000 hours, the C–141 requires many structural repairs in order to extend its service life further. The Air Force feels that extending C–141 service life at this point is shortsighted. It could cost as much as $13.5 billion to repair the 25-year old fleet. Yet the aircraft still will have unknown structural risks, requiring higher manpower and maintainability costs—with no gain in payload capacity or operational flexibility. Cancelling the C–17

would not eliminate our airlift requirements but would soon (fiscal year 1998) necessitate start of a new C–X airlift aircraft development program.

With regard to the true unit cost, unit flyaway cost in then-year dollars is $144.2 million ($73.0 million in base-year 1981 dollars) or $124.5 million in fiscal year 1990 dollars.

Senator WARNER. What factors do you feel have inflated the advertised unit costs of the program?

Mr. RICE. Two factors have inflated the C–17 program costs: increased OSD inflation rates ($3.2 billion) and an adjusted procurement profile ($1.2 billion). These changes have increased the unit flyaway costs. The 1988 Selected Acquisition Report showed a unit flyaway cost of $124.9 million in then-year dollars ($70.1 million in base-year 1981 dollars). The fiscal year 1991 President's budget reflects a unit flyaway cost of $144.2 million in then-year dollars ($73.0 million in base-year 1981 dollars).

C–17 ALTERNATIVES

Senator WARNER. Much has been said about possible alternatives to the transport. Why can't we get by with spending less money and keep the current airlift fleet operating?

Mr. RICE. Without addressing the significant operational benefits of the C–17, cancelling the C–17 is not prudent for several economic reasons. First, the USAF Airlift Master Plan calls for modernizing our airlift fleet with 210 C–17s. This allowed the Air Force to retire older C–141s and operate the remainder of the C–141 fleet at a lower daily utilization rate, thus extending the number of years of useful service. Keeping the current fleet operating without the C–17 would require a C–141 service life extension program (SLEP). While current estimates indicate a SLEP could extend average aircraft service life to 2011, this is a high risk option requiring 16 to 24 months of additional study. In addition, the Air Force estimates that the SLEP would cost from $7.0 to $13.5 billion, take 6 to 8 years to complete, and reduce organic airlift capability by over a million-ton-miles per day during the repairs. Second, the C–141 at its current 4.0 crew ratio requires almost twice the manpower and flying hour costs per million-ton-mile flown compared to the C–17. Finally, extending the C–141 service life only delays the eventual need for aircraft replacement. Using the C–17 program experience as a guide, deliveries of a replacement aircraft would need to start by 2007, driving program startup in 1998. Considering the economic impacts of C–141 service life, operational costs, and certain need for replacement, the operationally and economically sound course is to field the C–17.

Senator WARNER. What is the current projected life of the C–141 fleet?

Mr. RICE. The C–141 was originally designed for 30,000 hours of flying time. During the conversion of C–141As to C–141Bs (stretching and adding air refueling), measures were taken to extend the airframe service life to 45,000 hours. As of September 1989, the fleet average is 31,700 hours. Since the early 1980s, threat analysis and operational needs dictated that the C–141 be deployed in the high speed, low level environment. This flight regime and heavy-weight aerial refueling have accelerated structural wear. As a result, aircraft are accruing equivalent hours at a rate up to 1.68 times as fast as the flying time; thus, at the current flying rate, we would expect the fleet to reach end of service life by the year 2000.

Senator WARNER. Won't innovations in sealift give you all the increase in capability you need?

Mr. RICE. No. Responsiveness is the key. Sealift innovations certainly help the mobility requirements of our combat forces. Sealift has the capacity for carrying enormous amounts of materiel. However, the transit time required for sealift tips our hand days before forces can be brought to bear, giving an enemy time for a number of pre-emptive measures and robbing us of the initiative. The need for fast, formidable force packages increases as more combat units are returned to the United States from stations overseas. Airlift provides the needed flexibility for rapid deployment of our combat assets anywhere in the world. During the 1973 Arab-Israeli War, the Air Force delivered missiles and ammunition and even tanks almost immediately. Although sealift delivered 74 percent of the Israeli resupply, the first ship did not arrive until 5 days after the war was over. Airlift and sealift work together, they are not exclusive of one another. We must have both.

Senator WARNER. How about timing? It seems to me that sealift is necessary but that airlift modernization is key if we are to be responsive on short notice, such as a Panama-type operation.

Mr. RICE. Timing is critical. When an operation such as Operation Just Cause needs to be carried out quickly, airlift is the key. Airlift's speed, flexibility, and

timeliness gave us the responsiveness to project sufficient forces to overwhelm resistance and limit loss of life. Although fast sealift can sometimes play a critical role in force projection, the lessons learned from the 1973 Arab-Israeli War clearly show that airlift provided the timely response necessary for success. Our primary airlift aircraft (C-141s, C-130s) used in Operation Just Cause are now 25+ years old and approaching the end of their service lives. The current airlift fleet must be modernized. The C-17 modernizes as well as expands the Nation's airlift capabilities. It offers much lower support costs than either the C-141 or C-5, while combining the advantages of strategic airlift for force deployment and the ability of tactical airlift to operate in and out of short fields to employ troops or resupply.

The next time the Air Force is called on to respond, the challenge may be half way around the world, but the requirement for timeliness will be just as great. The C-17 advantage is its ability to deliver a potent force anywhere in the world and concentrate that force at the critical point at the critical time.

Senator WARNER. Is it true that during the time of execution of the airlift for Panama that our entire C-141 fleet was committed?

Mr. RICE. Yes. During the period 18-21 December, 100 percent of the C-141 fleet was committed, but not entirely for Just Cause. The commitment level for the C-141 varied between 57 and 67 percent in direct support of Just Cause. The remainder of the C-141 fleet was committed to other essential airlift requirements around the world. Unfortunately, this high level of support for Just Cause required cancellation of previously scheduled operational missions.

Senator WARNER. Could we have executed a similar operation over greater distances, for example, in the Middle East or Southeast Asia?

Mr. RICE. Yes. A similar operation over greater distances could be executed, but exactly how much could be delivered in a particular time period would be situation specific. The location of the conflict and the type of terrain would be important factors that could affect whether we would concentrate on airdrop or airland employment. The actual distances involved would dictate air refueling requirements. Longer distances would increase the time and require a higher percentage of our airlift force to deliver the same force package.

C-141 MODERNIZATION

Senator WARNER. With the average age of our C-141 force now exceeding 25 years, is a re-wing effort sufficient to modernize these assets?

Mr. RICE. No. While re-winging is required to exceed 45,000 flight hours, there are also several other necessary repairs. Structural repairs to the fuselage skin, fuselage bulkheads, and fuselage main frames are necessary. In addition, we would require a new engine and updated electronics systems (autopilot, radios, navigation systems, flight instruments, etc.). Finally, improvements are required in aircraft wiring, hydraulic system pressure fittings, bleed air ducts, and warning systems. C-141 modernization is an extensive effort.

Senator WARNER. What unprogrammed additional stresses have evolved over the life of the C-141 which affect other than the wing?

Mr. RICE. There have been no unanticipated stresses on the fuselage and empennage skin area evolve over the life of the C-141 fleet. However, the magnitude and effect of these known stresses is greater than originally programmed, primarily due to increased requirements for low altitude flight and inflight refueling. Specifically, stress corrosion induced cracking has become a serious problem for the Air Force, costing over 727,707 manhours and $34.9 million in fiscal year 1987 alone.

Stress corrosion occurs in all aircraft subject to the combination of normal stresses associated with flight (torsional loading, bending, cyclical loading, etc.) and exposure to the elements. The aluminum alloy used throughout the C-141, 7075-T6, or 7079-T6 is particularly vulnerable to stress corrosion. This corrosion is usually on a hidden surface within a component and is extremely difficult to detect. As a result of stress corrosion, cracks begin to appear. While these cracks can normally be detected by visual examination or non-destructive electronic inspection, they must eventually be repaired. The older an aircraft becomes, the more vulnerable it is to stress corrosion, and the more costly the prevention and treatment becomes.

REPROGRAMMING

Senator WARNER. Last year, Secretary Cheney elected not to recommend to the President that the President exempt personnel from sequestration. Once that decision was made, OSD and the military services should have started taking the necessary actions to reduce personnel expenditures. Were those actions initiated? If not, why not?

Mr. RICE. Even before sequestration the Air Force had begun identifying options to respond to a potential shortfall in MPA. When the sequester took effect we began implementing some of these options immediately. Due to a $601.0 million shortfall in the MPA, the Air Force took actions to cut $373.0 million in the MPA by implementing the following actions:

Widespread officer/enlisted voluntary early release
Significantly reduced officer/enlisted accessions
Restructured the entire PCS program
Lowered the CONUS/overseas manning floors
Reduced initial Selective Reenlistment Bonus payments
Eliminated the CMSgt 33-year program

Senior Air Force leaders felt actions required to realize additional savings within the MPA above that level would be too severe on their members, so reprogramming of $332.0 million ($104.0 million internally realigned within the MPA and $228.0 million reprogrammed from other Air Force sources) into the MPA from other appropriations was approved.

The Air Force submitted its reprogramming request predicated on the instructions contained in the DOD Authorization Act which stated: "The conferees further expect the Secretary of Defense to submit reprogramming requests for additional military personnel funds as he deems appropriate."

Senator WARNER. It is now apparent that the personnel reprogramming request has little chance of being approved. Is the Air Force taking the necessary steps to ensure that their spending rates for the personnel accounts will not exceed the amount appropriated?

Mr. RICE. The Air Force has developed the necessary steps to ensure that spending in the personnel account will not exceed appropriations if reprogramming is denied. All of these actions have extremely severe effects on Air Force personnel, but the severity becomes even more painful each month Congress delays approving or denying reprogramming.

Since any of the required actions will have heavy negative impact on morale, productivity, retention, and combat readiness, the Air Force proposes to not take any of these actions without the agreement and direction of Congress. Therefore, if Congress intends to deny our request, the Air Force needs to be advised of that decision as soon as possible and be directed to implement actions appropriate to that decision.

ENVIRONMENTAL FUNDING

Senator WARNER. The request for defense environmental restoration account (DERA) funds for fiscal year 1991 has increased over the amount appropriated for fiscal year 1990 (fiscal year 1990: $601 million; fiscal year 1991: $817 million). The missing part of environmental funding is the funds critically needed to accomplish environmental cleanup and restoration at military bases proposed for closing by the Base Closure Commission and approved by Congress. In many cases, the projected sales, income, schedule, and progress are being delayed for lack of cleanup funds. Does the increase ($416 million) in the base closure account for fiscal year 1991 (fiscal year 1991 total: $917 million) correct some of these environmental bottlenecks?

Mr. RICE. The Air Force has always viewed environmental cleanup as a responsibility to be borne regardless of an installation's status concerning closure. Therefore, we have neither planned for nor budgeted base closure account (BCA) monies for this purpose since there are fund streams outside the BCA to cover the cleanup costs. Instead, the Air Force has viewed the BCA as its means of implementing the necessary closure actions at its five closing bases as well as the critical mission realignments recommended by the Closure Commission. The Air Force's share of the $416.0 million increase in fiscal year 1991 is a recognition that in order to meet the closure dates for its installations, construction projects must be completed in the early years of the implementation so that the necessary realignments can take place. With greater capitalization of the BCA in fiscal year 1991, the interrelated and consecutive actions of construction, realignment, closure, disposal, and return of proceeds from sale can take place within the 6-year implementation window of the closure act.

OPERATING TEMPOS AND COUNTERNARCOTICS ACTIVITIES

Senator WARNER. In the service operating tempos given in the DOD posture statement for the military services, the flying hours, the steaming days, and the other measures are stated. In another section, they discuss the counternarcotics activities

for the DOD. They will also include the same activities. Do the service operating tempos include the counternarcotics activities? If they do, what is that portion? If they do not, what are they?

Mr. RICE. The Air Force flying hours listed in the operating tempos include hours flown in support of counternarcotics activities. The following table illustrates the counternarcotics portion flown in fiscal year 1989 and projected for fiscal year 1990. The fiscal year 1991 portion of the flying hours will be determined as the CINCs reexamine counternarcotics initiatives.

Flying Hours (per crew/month)	FY89	CN %	FY90	CN %
TacAir	19.3	.58%	19.5	1.3%
Airlift	31.0	.14%	30.1	.24%
Strategic	18.2	.17%	17.7	1.3%

These figures represent flying hours only and do not include other significant nonflying counternarcotics activities.

Senator WARNER. Do the current (fiscal year 1990) and/or projected levels for fiscal year 1991 of counternarcotics activities impact military readiness?

Mr. RICE. Current and projected levels of counternarcotics activities do not impact military readiness. Title 10, USC 376, Assistance Not to Affect Adversely Military Preparedness, prohibits support to law enforcement agencies if military readiness would be adversely affected.

REVIEW OF ROLES AND MISSIONS

Senator WARNER. As we structure our military forces, I believe that we should take this opportunity to conduct at least a review of the roles and missions of the military departments. Do you see any value to be gained from such a review?

Mr. RICE. Admiral Crowe, the previous Chairman of the Joint Chiefs of Staff, completed a review of service roles and functions (missions) in November 1989. Secretary Cheney's staff is currently reviewing Admiral Crowe's recommendations for implementation. I do not see a need for an additional review at the present time. The 3-year review cycle mandated by the Goldwater-Nichols DOD Reorganization Act of 1986 is an adequate basis for the periodic evaluation of this area.

Senator WARNER. Are there any areas which you might identify to help ensure that we eliminate, or at least minimize, unnecessary duplication among the services?

Mr. RICE. Admiral Crowe's recommendations to change service roles and functions in his report to the Secretary of Defense were, in part, based on an analysis of duplication among services. Secretary Cheney's review of Admiral Crowe's recommendations, mandated by Goldwater-Nichols, is ongoing. Any potential actions to avoid duplication are pending completion of this review.

C–17

Senator WARNER. We have heard testimony on the peace initiatives around the world and the recommended drawdown of units in Europe. Even with the increased warning time, haven't the requirements for rapid airlift increased?

Mr. RICE. If U.S. forces return from Europe, mobility requirements will be greater. Despite the reduced threat in Europe, requirements for airlift to support our commitments throughout the world continue to exceed our capability. Increased warning time could allow fast sealift to meet some of those mobility requirements. However, to give our leaders the time they need to pursue all non-military options before moving forces to Europe, a very capable airlift fleet is needed. We must have a credible capability to respond to regional conflicts whenever and wherever our national interests are threatened. Our current fiscally constrained program and goal of 66 million-ton-miles per day with 210 C–17s, offers a significant increase in rapid response capability.

Senator WARNER. The President's budget requests funds for several large acquisition programs. The C–17 is one of the programs. What role does the C–17 play in our national defense posture? Is the program affordable?

Mr. RICE. Our national defense posture is rooted in deterrence. To be effective, deterrence requires both the national will and the means to use combat forces whenever and wherever necessary. Combat forces, whether ground or air, cannot

support national defense objectives if they cannot be deployed where and when they are needed. The principal role of the C–17 force is to enhance our Nation's ability to rapidly project, reinforce, and sustain these combat forces worldwide.

The C–17 will be the only aircraft capable of delivering all categories of cargo directly to the areas where they are needed. It can operate into austere airfields like the C–130, inflight refuel like the C–141 and C–5, and carry outsize cargo like the C–5. In addition, it is the only aircraft that can routinely airdrop or deliver outsize cargo directly to the battlefield, and it can operate from three times as many airfields as any other strategic airlift aircraft. In addition, the C–17 requires less maintenance, has greater ground maneuverability, and requires less airfield operating space than any current strategic airlift aircraft. These C–17 capabilities, combining the most important aspects of all our current airlift aircraft, give the battlefield commander unprecedented capability and contribute greatly to our national defense posture.

Economically, the C–17 is the most affordable and supportable future airlift option. The current C–141 is approximately 27 years old, and is currently undergoing one service life extension program (SLEP). If the C–17 is cancelled, the Air Force estimates it would take between $7.0 billion and $13.5 billion and 6 to 8 years to complete another SLEP. Another C–141 SLEP, however, only delays the need for an aircraft replacement program; we would have to begin the process all over again in fiscal year 1998. More importantly, the C–141, at the current 4.0 crew ratio, requires almost twice the manpower and flying hour costs per million-ton-mile of the C–17. The C–17 is the most prudent future airlift option and enjoys widespread support across DOD.

TACTICAL BALLISTIC MISSILE THREAT

Senator WARNER. With the increased proliferation of tactical ballistic missiles along with the chemical, biological, and some nuclear capabilities in the Third World, I would like to hear your assessment of the threat you perceive for your particular service. What steps should be taken to cope with this threat?

Mr. RICE. [Deleted.]

GAO FINANCIAL AUDIT

Senator WARNER. Was the Air Force aware of any problems in its accounting systems prior to GAO's report?

Mr. RICE. Yes. Prior to 1983 Federal departments and agencies were required to submit their accounting system design specifications to the GAO for approval in accordance with the Accounting and Budget Act of 1950. In 1982 Congress passed the Federal Managers' Financial Integrity Act (FMFIA) which, among other things, required Federal Government agencies beginning in fiscal year 1983 to report annually their inventory of accounting systems, to identify which systems were substantially compliant with GAO accounting principles, standards, and related requirements, and to provide planned corrective actions on any system listed that was not in compliance.

The Air Force's first report in fiscal year 1983 reported a total of 29 systems; 23 had already been approved by the GAO (79 percent). Of the six remaining systems, four systems were subsequently brought into compliance, one was transferred to another agency, and one, the General Accounting and Finance System, was partially approved (funds control, but not the general ledger).

Today, because of changes in the way we group subsystems for reporting, 11 systems are reported. Nine were reported compliant, one was reported with a weakness that has now been corrected, and one remains non-compliant—the General Accounting and Finance System, which is the focus of the GAO report.

Senator WARNER. Have the costs of major systems been fully reported to Congress?

Mr. RICE. Air Force costs for major weapon systems are being accurately reported to Congress. These costs are provided in the Selected Acquisition Reports (SAR). The SAR presents the annual status of major defense acquisition systems. The Air Force SARs reflect those cost categories as required by 10 USC 2432 and implemented by Department of Defense instructions. In accordance with current legislation, these SARs track cost for development, procurement, and mission specific military construction, and acquisition-related operation and maintenance. Air Force SARs agree with other budget justification documents, P–1, R–1, Congressional Data Sheets, Descriptive Summaries, FYDP data base, and Program Office Estimates for outyears.

Senator WARNER. What are the pros and cons of the private sector financial statements that GAO is recommending?

Mr. RICE. While the GAO believes private-sector-type financial statements provide better visibility into the total financial position of businesses and corporations, the Air Force believes that such information may be of limited utility to the public sector. The Air Force is not a profit making institution, and our value to the Nation cannot be measured by net worth. For example, measuring the depreciated value of weapon systems is not relevant to the Air Force's financial condition, since we do not make decisions based on depreciated value and we pay no corporate taxes. In addition, such financial statements would be inconsistent with the current manner in which Congress appropriates funds.

Information which forms the basis for management decisions in the Air Force, DOD, and Congress, includes but is not limited to, that derived from Air Force accounting systems or financial statements. All financial management systems are not integrated vertically into one massive accounting system. And, all financial management systems are not integrated with other Air Force information systems. Nevertheless, the total matrix of information provides the ability to support the requirements of the Air Force, DOD, and Congress in preparation of programming, budgeting, costing, and financial operations.

Senator WARNER. I understand you have responded directly to the Comptroller General in writing? Could you submit a copy of your response for the record?

Mr. RICE. Yes, sir.

[The information follows:]

SECRETARY OF THE AIR FORCE
WASHINGTON

February 15, 1990

Honorable Charles A. Bowsher
Comptroller General of the United States
Washington, D.C. 20548-0001

Dear Chuck:

You asked that I review personally the GAO draft report on the Air Force's FY 88 trial financial statements. Having done so, I have to tell you that we have very serious disagreements with both the content of the draft report and the GAO's handling of the "audit."

The GAO findings are fundamentally misdirected. They compare Air Force financial systems to GAO pre-conceived accounting statement requirements that have not been promulgated for executive branch adoption by the OMB. The GAO apparently wants government agencies to have the same auditable balance sheets and other financial statements as for-profit companies. This concept has not been accepted by the Congress or the Executive Branch.

The draft report is deficient in many other respects. It makes frequent assertions about the benefits from financial statements that meet the GAO-self-initiated standard, but presents no evidence to back them up. No cost savings are identified. Implementation costs, likely to be in the billions for the DOD, are ignored.

Overall, the draft report offers a narrow CPA's view of the information needed for defense decisionmaking that has limited relationship to the real problems of defense management. Many available sources of information supporting defense decisionmaking are ignored. There is no mention of the Defense Planning, Programming and Budgeting System, the Selected Acquisition Reports, the Independent Cost Analysis process, or the many analytical studies of cost and other factors. The report simply does not make a case why I need to know the depreciated, cost-based dollar value of the B-1B inventory in order to make an informed decision about the need for the B-2. Even if that information were useful, why do I need it at a penny-wise level of accuracy that a CPA would judge "auditable"?

The GAO's handling of this "audit" raises further troubling issues. The Air Force financial management community, widely recognized as leaders in the government, volunteered to work with the GAO and develop trial financial statements to provide a test case for GAO's ideas. In return, the GAO writes a hypercritical

and inflammatory report. (At a public meeting, GAO staff have described intentionally sensationalizing the title of the report to increase its newsmaking potential.) I would point out that the GAO will need the cooperation of the financial management professionals to carry out improvements to executive branch systems. This "audit" is a textbook case of how not to secure such cooperation.

The GAO's own procedures were not followed either. This is a summary report, but we are asked to comment without having the four underlying reports available. We were given 14 days instead of the normal 30 days to respond, and were denied a formal exit interview.

While pushing the GAO agenda, the report offers little recognition of the Air Force fund control system. The draft report mentions that our systems emphasize fund control (making sure spending limits are not exceeded); with some exceptions, fund control is adequate and expenditures did not exceed appropriations. Since the stewardship of appropriations for which we have been entrusted is one of our highest priorities and major financial responsibilities, we would have thought the Air Force's overall performance in this regard would have warranted some positive recognition.

Air Force self-reports have identified the shortcomings in its financial systems. The major system deficiencies discussed in the GAO report (lack of a transaction-based general ledger and financial control of government-furnished material in the possession of contractors) have been fully explained in our reports under the Federal Manager's Financial Integrity Act, and corrective actions are underway. The Air Force is fully committed to its goal of a financial management system that meets Office of Management and Budget objectives and complies with existing Comptroller General standards. As evidence of this commitment, the Air Force is currently planning to spend over $200 million over the next five years on financial system improvements and enhancements.

While GAO feels that "more needs to be done," these needs must be balanced and compete with other pressing requirements of the Department. Additionally, we must comply with OMB Circular A-127 requirements to gather and process financial management data only when necessary to meet specific internal management needs or external requirements, to tailor reports to specific user needs, and terminate reports if usage does not justify costs. The draft report fails to acknowledge the numerous decision-support tools available to Air Force leadership which supplement, but are outside the accounting and finance system.

The DOD Inspector General reviewed the draft GAO report for the Secretary of Defense and cited many of these same concerns:

> "In addition to our general concern that the overall tenor of this report is unfair and fails to take proper note of existing management systems, without any specific support whatsoever, the GAO assumes that better financial systems will automatically lead to better decisions on the selection of future weapon systems. The GAO also ignores the enormous cost of developing these systems. For example, the costs for just one such system currently in development, the Army Reserve Component Automation System, has grown from $250 million to over $1.5 billion.
>
> The GAO report offers no specific savings, but nonetheless infers from its title that "billions" can be saved. In our view, capitalization and depreciation of military hardware is of questionable value. Industrial and stock funds are "fed" by appropriations, which expire annually. "Losses" to one specific part of a stock fund are "gains" to an appropriation level account. The cost of making these stock and industrial funds more accurate at the lowest levels will probably exceed the utility of the more accurate information to DOD decisionmakers. Finally, the GAO comments with respect to long supply items and loss of inventory control (a very serious problem both within our own depots and for material in the hands of DoD contractors) have little or nothing to do with financial reporting, since these stocks must be managed on an item/inventory basis for readiness and warfighting purposes--not on the basis of a financial statement."

To sum up, this draft report creates the misimpression that the Air Force is wasting and mismanaging billions of the taxpayers' dollars because of inaccurate and unreliable financial data. Promulgating such a misperception would be an extreme disservice to the public and to the Air Force because it is simply without foundation. I urge you to send your team back to the drawing board with instructions to prepare a report that fairly evaluates the pros and cons of GAO's approach and which uses Air Force data only as a test case for a new approach, while recognizing that Air Force systems comply effectively with existing requirements.

I'm sure if we were to work together in a spirit of open evaluation, we could bring about the improvements in defense management to which we are all committed.

Sincerely,

QUESTIONS SUBMITTED BY SENATOR JOHN MCCAIN

STRATEGY AND FORCE POSTURE

Senator MCCAIN. One of the most critical problems we face during the next 5 years is the restructuring of our strategy and force posture to meet changing strategic and financial conditions. In your personal opinion, what are the major changes we should make in our strategy and force posture if a CFE and START Treaty are signed, if the Soviet and Warsaw Pact continue to decline as threats, and if real defense spending drops to levels no higher than those called for by President Bush?

Mr. STONE. I agree that the issue of determining the proper strategy and force structure to ensure our national security is of paramount importance. The international security environment and the domestic political environment are changing so quickly that considered assessments are difficult. On the one hand, I believe we must maintain those strategic tenets, and the required force structure, necessary to deter war, defend the U.S. and its vital interests, and support our allies. On the other hand, some changes are not only necessary, but desirable. The specific changes should result from careful consideration of all the relevant factors. The Chairman, Joint Chiefs of Staff, has recently initiated a Joint Strategy Review to assess the changes in the environment and to determine how well our strategy and forces achieve our national security objectives. The Joint Chiefs of Staff will consider the results of the Joint Strategy Review and recommend a national military strategy and force structure. Specific comments about changes should await the JCS recommendation.

Senator MCCAIN. What major changes do you believe will be called for in terms of strategy and roles and missions?

Mr. STONE. As I said in my answer to the previous question, its too early to give a definitive answer as to the direction of the strategy until the completion of the Joint Strategy Review. I do not think any major changes in roles and missions are necessary. As I said in my answer to Senator Warner, we have just completed a major review of service roles and missions. The conclusion was that some revision is in order but that the assignment of roles and missions to the services was fundamentally sound.

Senator MCCAIN. What major changes in total force structure?

Mr. STONE. The Army plans to reshape its force structure to accommodate significant changes in the strategic environment. The restructured Army must be fully trained and ready to address a still dangerous threat in Europe. The preservation of peace in Europe through NATO will remain a central goal of the Army. The threat will be less . . . our warning time will be longer. The Army will have fewer forward deployed forces with the remaining forces focused not only on reinforcing NATO but also on worldwide contingency missions. CONUS-based forces will consist of light, heavy, and special operations forces capable of projecting power on short notice. The challenge is to prepare to deter or fight a future conflict whose scenario/threat is not clear. Historically we do not have a good record of anticipating the actions of our adversaries.

Addressing the challenges of the future will require reshaping the Army. The concept focuses on a prudently reduced CONUS force structure capable of reinforcing forward deployed forces and responding to contingencies as required. Therefore, the Army end state must have a balance of forward deployed, contingency, and reinforcing forces appropriate to our national strategy. Reductions will be distributed among components based on war fighting requirements to include: response times, acceptable risk vs. affordability, and the slice or support elements doctrinally associated with combat formations.

The Army's strategy is to take advantage of the declining threat by making balanced reductions in both Active and Reserve components to preserve a coherent force structure. With a force of four corps and 23 AC/RC divisions, existing equipment can be redistributed and scarce RDA dollars used to modernize a larger percentage of the force. Recruiting problems will be alleviated. Quality can actually improve, despite fewer resources. Reserve component units which are no longer required will be inactivated.

Europe will evolve to a force centered around one heavy corps. We do not see a reduced threat in the Pacific and, although the Army will make moderate force reductions in the region, a division will still be forward deployed in Korea.

The Army's force reduction plan maintains the force balance commensurate with an evolving threat and the needs of the warfighting CINCs. In a period of diminished resources and uncertainty, a balanced draw down is the best means to maintain a high quality force which is expansible, deployable, and lethal.

Senator McCAIN. What changes in power projection forces?

Mr. STONE. The U.S. Army contributes to military power projection through the use of forward deployed, contingency, and rapid or sustained reinforcement forces. Our goal is rapid deployment of a tailored mix of heavy and light forces to reinforce forward deployed forces or our allies. We provide contingency and reinforcement forces for employment to the warfighting CINCs.

Army capabilities range from rapid power projection ("Just Cause") to sustained power projection throughout the world.

As a result of the reduction in threat and budget pressures, the principal change to the forces we use for power projection is that they are much less NATO-centered and are poised and ready for global or regional conflicts wherever those conflicts may occur. Our forces are multi-theater capable and have roles to play globally. We are developing a more balanced global perspective with contingency forces that are versatile, deployable, and lethal.

Senator McCAIN. What changes in rapid deployment capabilities?

Mr. STONE. The Army of the 90s will be a smaller and less forward deployed force. To enhance deterrence and ensure the strategic missions assigned to the Army can be executed consistent with emerging national military strategy, the Nation requires modern airlift capable of transporting a mix of heavy and light forces anywhere in the world. The Nation also requires fast sealift to rapidly reinforce early committed Army and Marine forces with heavy combat, combat support, and combat service support forces. A rapid power projection capability is an essential element of credible deterrence. Deploying forces in a crisis, to establish a strong forward presence, or to reinforce forward deployed forces of any service, can strengthen deterrence and prevent hostilities. The C–17 facilitates contingency operations which are the most likely future scenario. Using the C–17, the Army can deliver a tailored mix of forces and equipment to respond to any threat. With existing fast sealift ships, the Army can deploy a heavy division and corps level CS/CSS to Southwest Asia in about 3 weeks. As part of a Joint Task Force, the Army can provide unique capabilities such as ground air defense, heavy armor, or robust engineer capabilities. Further, by putting the right mix of forces on the ground early, the need for even larger forces later may be precluded.

PLANNING AND BUDGETING SYSTEMS

Senator McCAIN. The current planning and budgeting system affecting the military services seems to take so long to produce inputs and the lag between such inputs and the final budget decisions is so great that vast amounts of staff work are generated to little practical purpose. What do you personally believe the weaknesses are in the current planning, programming, and budgeting system and cycle, and what should be done to improve it and make it more responsive?

Mr. STONE. As currently structured, the Department's Planning, Programming, Budgeting, and Execution System is a continuum. It has evolved into a staff process that never ends. For the past 10 years, the services and OSD staffs have found themselves in a constant justification of resource requests with little time to evaluate either planning alternatives or execution performance. Secretary Weinberger had hoped that the transition to a biennial cycle would focus the process on the important issues and simultaneously allow for greater examination of both programming and execution alternatives. Unfortunately, it did not turn out as he had hoped; in the fiscal year 1990–1991 biennial cycle alone, the Army has done three major budget justifications within the Department of Defense and three more on the Hill. If a true biennial budget and appropriation cycle were to be implemented, and discipline applied to the process, the benefits would accrue as expected.

The complexity of the current processes has been exacerbated by the rapidly changing international environment and the lack of agreement between the executive and legislative branches on the appropriate focus for defense program and resultant expenditures. The services are at the end of the process—with major changes in focus and additions to workload required to accommodate adjustment in the cycle. The very nature of the detailed justification materials required by both the Department of Defense and Congress focuses much of the service process on minutiae. Often the data required for justification within DOD differs from that required by Congress, thus necessitating significant duplication of effort in preparation of the justification materials.

While I recognize that the international political environment and the national economic priorities will remain as "wild cards" in Defense budgeting for the foreseeable future, I believe that much could be done to streamline and focus the administrative elements of the program and budgeting processes. For example, a joint legis-

lative-executive workgroup could meet immediately both to streamline and to standardize the presentation formats for budget justifications. In doing this, they should examine what today's information requirements really are for legislative decision-making and cast aside many of the requirements from prior years that are no longer relevant or useful to the process.

In addition, we need to re-examine the levels of reprogramming authorities within the Department and many of the restrictions placed on the departmental activities concerning utilization of appropriated funds. With massive adjustment to funding requests applied by the committees without programmatic guidance, it is essential that the service Secretary and the Secretary of Defense have the authority to realign the appropriated funds among DOD appropriation accounts to get the job done within the legislated intent of Congress, without arbitrary line item controls and transfer thresholds. Lifting of the many restrictive and arbitrary controls imposed on budget execution by Congress would allow Army commanders the flexibility they need to manage within the resources allotted. Our ability to use any appropriations excess prior year funding to cover shortfalls caused by fluctuation in currency exchange rates would improve our management flexibilities. In the volatile economic and political environment in which we are operating, we must have the tools to refocus the Department's operations to meet changing demands.

WASPM

Senator McCain. At a February 13, 1990 AUSA symposium on "Army Needs for the 1990s," General Edwin H. Burba, Jr., CINC, U.S. Army Forces Command, stated that the Army needs a man-portable, hand-emplaced anti-armor system. Why then is the Army not completing development and type classification of the wide-area-side-penetrating mine (WASPM)? WASPM completed a successful test against a remotely controlled tank in a January 1990 field test.

Mr. Stone The Army does have a need for a man-portable, hand-emplaced anti-armor system. In view of scarce resources and the items the Army has in development, it was decided to give first priority to meet this need to development of the wide area mine (WAM). WAM is beginning full scale development in fiscal year 1990, and is scheduled for type classification in fiscal year 1994. WAM will give the Army its first man portable, hand-emplaced, stand-alone anti-armor system. As funds become available, WASPM may be reconsidered for development.

JSTARS

Senator McCain. General Galvin testified before the Senate Armed Services Committee on February 7, 1990, stating:

> "With fewer forces in place, mobility grows even more important. To gain a mobility differential we must increase our ability to maneuver while we slow the enemy down by delaying, disrupting, diverting, and destroying him. Our follow-on-forces-attack (FOFA) capability will remain a critical component of our defense doctrine. We will need to 'see deep' in order to uncover enemy massing and maneuver. Joint STARS is the centerpiece of our ability to do this. It orchestrates the countermobility effort."

As the Soviets withdraw more of their troops behind the Soviet border, won't the 'see deep' capabilities of Joint STARS be more important as a force multiplier?

Mr. Stone. JSTARS will become more critical compared with other U.S. systems as U.S. European ground force levels are lowered. Soviet forces will continue to modernize as they withdraw to within the U.S.S.R. behind a buffer zone of increasingly uncooperative Warsaw Pact countries. Although Soviet ability to gain surprise will decrease, NATO will be more vulnerable should hostilities occur. A smaller NATO force will depend more than ever on maneuver and deep targeting to counter the Soviet threat. JSTARS's "see deep" ability to do deep targeting and to provide a basis for directing follow-on-forces-attack (FOFA) will be more critical than ever under these circumstances. Both General Foss, the current TRADOC commander, and his predecessor, General Thurman, stress the criticality of JSTARS to the defense of Europe.

Senator McCain. Col. Dempsey Malaney of TRADOC briefed Gen. Maxwell Thurman on Joint STARS capabilities on February 13, 1990. He stated that use of Joint STARS moving target indicator (MTI) and synthetic aperture radar (SAR) would support low intensity conflict (LIC) by providing warning of enemy movements and flank attacks. General Thurman supported this idea and felt that it could also be used to develop "situation normal" view of target areas prior to committing an air

assault force. Does the Army see a similar need for Joint STARS in low intensity conflict?

Mr. STONE. JSTARS has always had a world-wide mission across the continuance of operation with orbits planned for each theater of operation. JSTAR's deep targeting and situation development capability will be critical to U.S. contingency operations and support of our allies. JSTARS can target threat response to airborne or air assault contingency operations. JSTARS can also locate and direct attack against lines of communication and resupply in low intensity conflict. Its flexibility permits both the aircraft and ground stations to be shifted quickly to the appropriate theater to support contingency operations or low intensity conflict.

Senator MCCAIN. Does the Army believe that the data links and communications on board the ground station module provide adequate and rapid dissemination of Joint STARS surveillance and targeting information to the corps and division commander to conduct FOFA and to support LIC?

Mr. STONE. Yes. The data links and communications in the JSTARS ground station module (GSM) are adequate. Both corps and division commanders will have GSMs with their tactical operations centers and their fire support units.

Senator MCCAIN. Does the Army believe that Joint STARS, as it is currently being developed, will have the mobility to deploy anywhere in the work to support LIC?

Mr. STONE. JSTARS will be deployable anywhere in the world in support of contingency operations or low intensity conflict. The Block I GSMs will be mounted on 5-ton trucks that are deployable on C–141 aircraft.

Senator MCCAIN. The Block I contract for Joint STARS GSM calls for an open architecture with the capability to simultaneously receive multiple sensors. What unique capability does this design approach give Joint STARS when compared to other intelligence and early warning systems in the Army inventory?

Mr. STONE. The ability to simultaneously receive data from multiple sensors makes Block I and II GSMs very flexible compared with earlier systems. The GSM will be able to receive and process imagery from the JSTARS aircraft, the OV–1D Mohawk, and unmanned aerial vehicles. Block II GSMs will have an embedded commanders tactical terminal to receive reports from guardrail common sensor. Older processors generally processed imagery from only one source. The GSMs "open architecture" will accommodate evolutionary expansion without radical redesign of the basic architecture. The open architecture will permit introduction of components to receive new sources of imagery or more efficiently process existing sources.

AH–64 APACHE

Senator MCCAIN. The Army's procurement plan for the AH–64 Apache is to end production after you have bought 807 aircraft. Eleven aircraft have already been lost to accidents, leaving a maximum of 796 aircraft in the inventory. The Army plans to equip 40 attack helicopter battalions with the Apache; 26 in the Active forces with 18 aircraft per battalion, and 14 in the Guard and Reserve with 15 aircraft per battalion, for a total of 678 aircraft. Does the Army believe that the 796 total aircraft provide enough additional aircraft for training, repair and readiness float, and attribution against future losses?

Mr. STONE. Yes.

Senator MCCAIN. According to the Army's standard force structure calculations, how many Apaches would be needed in each category—training, repair and readiness float, and attrition—to support a 678 unit force?

Mr. STONE. The following number of Apaches would be needed using standard force structure calculations: training—50; operational readiness float—68; repair cycle float—34. Given planned force structure reductions in both Active and Reserve components over the next several years, the total buy of 807 AH–64 helicopters will meet force structure requirements and is reasonable. The Army will have sufficient AH–64s to resource attack helicopter units needed for our programmed armored/mechanized organizations while maintaining a prudent float account. In continuing to modernize the total Army in this environment of reduced resources, we have conducted substantial risk analyses and made tough choices to achieve an acceptable security posture.

Senator MCCAIN. Guard and Reserve battalions were originally programmed to receive 18 aircraft. Why were they reduced to 15 aircraft?

Mr. STONE. PBD action in April 1989 reduced the AH–64 procurement objective to 807. This reduced the number of Apache battalions from 47 to 40. With a new procurement objective of 807, the Army will field a 40 Apache battalion structure using the Army's basic philosophy of fielding the AH–64 to mechanized/armored divisions

and to corps. The Army made the decision to field Active component battalions at 18 aircraft and Reserve component battalions at 15 per unit. This strategy provides sufficient aircraft needed for training and float accounts.

Senator McCain. Are these units assigned wartime missions that require fewer aircraft or is the Army adjusting their unit size to fit its total inventory?

Mr. Stone. In order to continue with the Army's basic philosophy of fielding to all armored/mechanized divisions and corps, the Army decided to field Reserve component units at 15 AH-64s per battalion. Given planned force structure reductions in both Active and Reserve components over the next several years, the total buy of 807 AH-64 helicopters will meet total force structure requirements. This prudent economic strategy will provide sufficient aircraft up front for training and float accounts. As additional force structure reductions are implemented, we will backfill additional AH-64s to the Reserve component units.

Senator McCain. How many additional Apaches would the Army need to buy to equip all 40 battalions with 18 Apaches including the usual number for training, repair and readiness floats, and attrition?

Mr. Stone. To equip 40 battalions with 18 Apaches per unit, the Army would need to buy a total of 878 Apaches.

Senator McCain. Where is the Army in the development cycle for the Longbow all-weather attack program for the Apache and when will Longbow be ready for retrofit in the Apache? How many Apaches will the Army retrofit with Longbow? How many will be done per year? How many Apaches will be out of the inventory at any one time during the retrofit program? Will the Army deactivate Apache battalions during the retrofit program or reduce the number of aircraft in units?

Mr. Stone. The Longbow program is preparing to enter full scale development this summer following Army and Office of the Secretary of Defense milestone decision reviews. The Longbow program will modify 227 AH-64 Apaches with Longbow beginning in fiscal year 1993 and continuing for 6 years. The rate will begin at 12 per year ramping up to a maximum of 60 per year in fiscal years 1996 and 1997. The maximum number of Apaches out of the inventory will be 25. No Apache units will stand down; float account aircraft will comprise the bulk of the aircraft for Longbow integration.

Senator McCain. What advantages does the Longbow system have over the present Hellfire system?

Mr. Stone. Longbow provides Apache with a fire-and-forget capability and a true adverse weather capability which do not exist with the present semi-active laser Hellfire. The current system requires exposure of the laser designating system throughout the flight of the missile. With Longbow, exposure is limited to the time it takes to launch the missile, a matter of only a few seconds. Furthermore, the current laser Hellfire system is highly susceptible to weather and other forms of battlefield obscuration, such as smoke and dust, whereas Longbow's radar and missile system is not affected by these obscurants. The most significant advantage of Longbow is its ability to acquire, classify, and engage targets at a faster rate with a fire-and-forget missile than the current Apaches target acquisition designation sight system, thus enhancing its survivability over the current AH-64.

Senator McCain. There have been allegations that the Guard and Reserve will have difficulty operating and maintaining a sophisticated weapon like the Apache. What has been the Army's experience with the Apache in the first operation Guard unit in North Carolina?

Mr. Stone. The 1-130 Aviation Battalion (NC-ARNG) was the first Reserve component unit to receive the AH-64 Apache. The unit has operated and maintained the Apache to support mission requirements, annual flight training periods (AFTP), and successfully maintained their AH-64s through their Army readiness training evaluation program (ARTEP) and certification. During the conduct of the ARTEP, the unit sustained and maintained readiness levels equal to Active Army units. The unit has experienced similar difficulties that every unit experiences when completing the ARTEP and deploys to home station. The learning curve on maintenance is beginning to level out and supply difficulties experienced upon return to home station have recently been resolved through the NC State Guard Aviation Office. The 1-130 Aviation Battalion has the trained personnel and adequate facilities necessary to sustain their AH-64s. All lessons learned have been passed on to the National Guard Bureau for infusion into fielding plans for future Guard AH-64 battalions.

Senator McCain. There were press reports about a year ago concerning maintenance and readiness problems with the Apaches assigned to the 82nd Airborne Division. This was the same unit deployed to Panama in December 1989. How did this unit perform in Panama?

Mr. STONE. During Operation Just Cause, the Apache performed as expected. Highlights of the operations were mission readiness, Operations Tempo (optempo), repair turn-around times, attack aircraft stand-off capability, and night operations. Eleven Apaches flew over 238 flight hours with 138 hours at night during the operation.

Senator MCCAIN. Did it have any maintenance and readiness problems?

Mr. STONE. During this operation, the Apache did not have significant or noticeable maintenance problems. Operational readiness rates during the height of operations were above the DA standard and optempo rates were above the peacetime rate. The maintenance problems encountered are those experienced on a day-to-day basis. Only two aborts were experienced during the operation. Battle damage repair and maintenance turn-around time was excellent with three aircraft returned to service within 24 hours. Overall the aircraft performed as expected.

Senator MCCAIN. What steps had this unit taken since last year to resolve its previous problems?

Mr. STONE. The 82nd Airborne Division experienced maintenance and readiness problems with the Apache last year. Through a concerted effort of the unit commander, supported by the Apache program manager, aircraft manufacturers and the Aviation Systems Command, the majority of those problems were corrected. The Army has focused attention of unresolved issues through the Apache action team. Repair/improvements have reduced Apache maintainability requirements and increased unit readiness. Results of the improvements are represented by the 82nd's high operational readiness rates during Operation Just Cause.

Senator MCCAIN. What lesson did we learn in Panama about the Apache's ability to sustain battle damage and still operate?

Mr. STONE. Three aircraft sustained damage resulting from 7.62mm and 5.56mm ammunition. The survivability and durability of the Apache was demonstrated by the fact that aircraft sustained damage from ground fire, had no crew injuries, returned safely to base, and were quickly repaired and returned to service. The Army gives the Apache very high marks for its survivability, night mission capability, weapons performance, and supportability during Operation Just Cause. The Apache performed to Army expectations.

LHX

Senator MCCAIN. Under current Army plans, Apache production will end in 1993. When will LHX reach full production? How many LHXs will be built per year at full production? What is the annual funding for the LHX to support production at this level? What is your assessment of the risk in the LHX development program?

Mr. STONE. Apache production for U.S. Army requirements will end in December 1993. LH production will begin in November 1994 with award of the initial production contract. First LH delivery will occur in March 1996. Planned production quantities by procurement year are 24 (fiscal year 1995), 48 (fiscal year 1996), 96 (fiscal year 1997), 144 (fiscal year 1998), 180 (fiscal year 1999), and 216 (fiscal year 2000). The number of LHs at full rate production is 216 per year. The peak annual funding requirement for LH at a 216 per year rate is $2.7 billion in fiscal year 2000 (fiscal year 1990 dollars). Funding decreases subsequent to fiscal year 2000 as cost learning curve effects occur. The overall program risk is low to moderate, fully acceptable for initiation of full scale development. Risk reduction efforts have been conducted through comprehensive concept exploration and demonstration/validation phases during fiscal year 1984 to fiscal year 1990. These efforts have concentrated on reducing all risk associated with development and production of the mission equipment package, software, and airframe. This effort has also focused on reducing risk associated with production costs, support costs, and producibility.

AH-64 APACHE

Senator MCCAIN. What is the planned force mix of Apache, LHX, Cobra, and AHIP at the completion of the LHX program?

Mr. STONE. The LH program is designed to replace all of the OH-58/AH-1 helicopters in the Army's air cavalry/reconnaissance units in light/heavy divisions and all OH-58s in heavy divisions. Given the volatility of the force structure, a few OH-58Ds may remain in the force with the Guard and Reserves after the completion of LH fielding in 2010. All 796 AH-64s less attrition will still be in the force then.

Senator MCCAIN. Will the LHX fill the shortfall in the Apache force?

Mr. STONE. We do not plan to use the LH to fill shortfalls in the Apache force structure but the LH will complement the Apache in the heavy divisions. Procurement of AH-64s for light divisions, either Active or Reserve, was not programmed.

CONVENTIONAL AMMUNITION

Senator MCCAIN. How many metric tons of conventional ammunition of all types does the U.S. have located in the continental U.S. and overseas? Please break this total figure into categories of artillery ammunition, tank ammunition, and small arms ammunition. How many tons of the artillery ammunition is figure improved conventional munitions and precision guided munitions?

Mr. STONE. There are currently 2,076,909 metric tons (1,515,922.1 metric tons OCONUS, 560,986.9 metric tons CONUS) of conventional ammunition of all types CONUS and OCONUS belonging to the Army. I will now present a breakout by category.

—*Artillery ammunition*—consists of mortars, 105mm Howitzer, 155mm Howitzer, 8 in. Howitzer, 165mm, 175mm, recoilless rifle ammunition, propelling charges and primers—1,242,319 metric tons.

—*Tank ammunition*—consists of 152mm, 105mm, 120mm, and obsolete 90mm, 75mm, and 76mm ammunition—125,198 metric tons.

—*Small arms ammunition*—consists of 5.56mm through 40mm and shotgun cartridges—156,370 metric tons.

—*Other*—mines, pyrotechniques, etc.—157,760 metric tons (world wide).

—*Improved conventional munitions*—artillery ammunition 366,865 metric tons.

—*Precision guided munitions*—consists of 155mm Copperhead M712, MLRS, Chaparral, Shillelagh, Patriot, I-Hawk, Hellfire, Lance, Redeye, Dragon, Stinger, TOW and Pershing—28,397 metric tons.

STRATEGY AND FORCE POSTURE

Senator MCCAIN. One of the most critical problems we face during the next 5 years is the restructuring of our strategy and force posture to meet changing strategic and financial conditions. In your personal opinion, what are the major changes we should make in our strategy and force posture if a CFE and START Treaty are signed, if the Soviet and Warsaw Pact continue to decline as threats, and if real defense spending drops to levels no higher than those called for by President Bush?

Mr. GARRETT. The dramatic changes now unfolding worldwide, especially in the Soviet Union and Eastern Europe, suggest that our Nation is on the verge of entering a new strategic era—one that calls for a reexamination of future U.S. defense planning and specific resource priorities. Today, the Soviet and Eastern European concentration on internal reform has placed them in a less immediately threatening military posture than at any time since the end of the Second World War. Progress in negotiations to reduce strategic arms and conventional land force imbalances between NATO and the Warsaw Pact will allow a reduction in strategic weapons and demobilization of some European based U.S. military forces. As agreements are finalized, we will likely be able to plan on an increase in the warning time available prior to any future conflict with the Soviet Union.

However, while we are encouraged by ongoing political changes in the Soviet Union and Eastern Europe, we should not lose sight that Soviet military capabilities—particularly naval capabilities—remain formidable, are being rapidly modernized, and clearly exceed all legitimate requirements for a strategy of reasonable sufficiency and self defense. The Soviet launching of Tlblisi aircraft carriers and Kirov strike cruisers, which could form the core of a Soviet naval power projection force, as well as the high construction rate of modern nuclear submarines, stand out as inconsistencies in Soviet efforts to redirect resources toward defensive armaments.

The greatest challenge we face in the period ahead is to carefully balance positive political changes in the Soviet Union and Warsaw Pact with a clear-eyed understanding that the Soviet's continue to pose the most significant military threat in the world to our Nation and our allies. In the short term, we must proceed cautiously to see where internal Soviet political developments lead, to assure ourselves that newfound Soviet openness and liberalization continue to expand, and most importantly, that proposed reductions in Soviet military capabilities are in fact carried out.

Destabilizing events in other areas of the world reflecting rising population pressures, nationalist movements, religious zealotry, and the struggle for control of critical resources are other factors that must be weighed in conjunction with the measure of our future defense needs vis-a-vis the Soviet Union and Central Europe. The [deleted] instability in the Philippines, Colombia, Lebanon, and other nations; continued tension in Korea; the "drug war"; and terrorism pose unique problems often distinct from the superpower competition.

The global proliferation of sophisticated high technology weapons, often to Third World regimes hostile to U.S. interests, is a reality that must factor into our securi-

ty planning. Our access to, and ability to freely conduct combat operations from overseas bases, is increasingly problematic. Moreover, U.S. national security and economic interests are becoming more widely dispersed and transnational in character than in the past.

It is also clear that in the Third World, where we are most likely to find ourselves facing military challenges, we also find out that national interests coincide with most likely adversaries in four major geographical regions or crisis "hubs": the Western Pacific, Indian Ocean/Persian Gulf, Mediterranean Sea, and Caribbean Sea—precisely those areas normally not easily accessible or influenced by land-based forces—and therefore where sea-based power projection forces are forward deployed. Naval forces continue to be the primary option in responding to crises because they can be tailored to a specific situation, are mobile and generally unfettered by basing concerns, and can be positioned or reduced without signaling retreat or loss of national resolve.

Keeping these concerns about the international security environment in mind, our overall national military strategy—calling for deterrence of conflict through forward defense in coalition with our allies—will remain valid for the foreseeable future albeit with less emphasis on Central Europe and more emphasis on deterrence of conflict in the Third World. This is so because our overall national security objectives remain constant even as the threats we face change. We have a core requirement to ensure that the United States remains a free and independent nation with its fundamental institutions and values intact. The United States remains a maritime nation, dependent on trade and free access to foreign markets, via the worlds oceans, for our economic well-being. We will continue to seek stable alliance relationships, and to retain the means to favorably influence global events. These enduring objectives will be best accomplished with our current forward strategy rather than a modified strategy which emphasizes reaction from CONUS as some have suggested. We must recognize that we cannot effectively deter with ships in homeport or aircraft in CONUS far from the scene of crises.

In short, in order to protect our national interests in the emerging security environment, while accommodating decreasing fiscal resources, it is now necessary to redirect our defense planning priorities—cutting back on some of the forces needed to defend Central Europe as the threat in the region diminishes. Meanwhile, we should preserve our naval capabilities—the force needed to ensure we can return to Europe if events so require and the force so often needed to protect our interests in the Third World. This course of action will best ensure that the apportionment of defense resources matches the threats we must counter.

REVIEW OF ROLES AND MISSIONS

Senator McCAIN. What major changes do you believe will be called for in terms of strategy and roles and missions?

Mr. GARRETT. I believe our basic strategy as discussed in the last question is sound, and foresee no significant changes. The roles and functions of the services have recently been thoroughly studied as required by Title 10, United States Code, as amended by the Goldwater-Nichols DOD Reorganization Act of 1986. Service responsibilities have been clearly defined to ensure duplication of effort is minimized. I do not believe that current roles and functions will change significantly in the period ahead. However, we will continue to examine roles and functions as the security environment changes to ensure the most effective use of our resources.

STRATEGY AND FORCE POSTURE

Senator McCAIN. What major changes in total force structure?

Mr. GARRETT. The Navy is structured to meet global requirements and to respond to regional conflicts throughout the world. To continue to do so, we require sufficient Active forces to meet our forward deployed commitments and provide immediate response to regional crises and contingencies. Even with a reduction of the direct threat from the Soviet Union and the Warsaw Pact, the Navy has worldwide responsibilities that remain unchanged.

Under the total force policy, Active forces are reinforced by a well-trained and equipped selected Reserve component, structured to make up the difference between peacetime and wartime requirements and to provide augmentation when required. Together, the Active and Reserve components provide adequate forces for deterrence—and if deterrence fails, war—at an affordable cost.

As we consider options to meet budgetary limitations, all elements of the total force—Active, Reserve, and the civilian sector—will be reexamined to determine the optimal force mix. Where requirements will allow and cost savings will accrue, some

shift in forces and missions between the Active and Reserve components may occur. Navy's goal in this process is to maintain a balanced force capable of meeting our global commitments while avoiding the debilitating hollowing of the Navy (both Active and Reserve) which occurred in the 1970s.

As a final point, Congress has directed the Department of Defense to study DOD and Services' total force policies. The findings of this study group, due in December 1990, may lead to changes in DOD guidance and impact the force structure of all services. However, it would be premature to speculate on any changes which may occur as a result of the study until the final report is published.

Senator MCCAIN. What changes in power projection forces?

Mr. GARRETT. Operationally, we have executed the national military strategy through the forward positioning of U.S. forces overseas—land based forces primarily in Europe and Korea—naval power projection forces at sea in other crisis prone regions or "hubs."

A reduced threat in Central Europe as a result of successful CFE negotiations will allow a corresponding reduction in European-based power projection forces without increasing the risk of executing a forward strategy. However, a reduced threat in Europe should not significantly affect the requirements for naval power projection forces because they are still required to deter other likely adversaries in crisis regions throughout the world.

Current naval force levels are in careful balance with overseas deployment and crisis response requirements. Changes as a result of fiscally mandated force level reductions or additional tasking such as expansion of Navy's support for the Nation's counternarcotics efforts will require adjustment of current overseas requirements. Reduction in naval power projection forces—with a commensurate reduction in our ability to be at Third World crises "hubs"—involves the risk that naval forces will be less effective in deterring conflict and, should deterrence fail, may be out of position to promptly respond.

As the locations of future conflicts become more uncertain and diverse, and as our overseas basing infrastructure decreases, reliance on sea-based forces is likely to grow. We should not prematurely reduce our naval power projection forces without clearly understanding the impact this will have on our ability to protect American citizens and national interests throughout the world.

Senator MCCAIN. What changes in rapid deployment capabilities?

Mr. GARRETT. As the threat from the Soviet Union and Warsaw Pact diminishes, the United States will increasingly determine its defensive needs based on the threats that we must counter from other sectors. Naval power projection forces provide a unique deployment capability in that they can deter with an extended presence on station in addition to being able to quickly respond should deterrence fail. This capability is not found in other rapid deployment force options, which would have to come from CONUS. Surge deployment forces, garrisoned in CONUS, must be judged as an additive, not competitive, requirement with naval forces. Current rapidly deployable power projection capabilities—Navy and Marine Corps forces, Army light and airborne divisions, Air Force bombers and special warfare teams—should be sufficient for most future needs. Standing-up additional rapid deployment forces, as some have urged, is fiscally unaffordable and is clearly unnecessary if we are prudent and preserve current capabilities.

PLANNING AND BUDGETING SYSTEM

Senator MCCAIN. The current planning and budgeting system affecting the military services seems to take so long to produce inputs and the lag between such inputs and the final budget decisions is so great that vast amounts of staff work are being generated to little practical purpose. What do you personally believe the weaknesses are in the current planning, programming, and budgeting system and cycle, and what should be done to improve it and make it more responsive?

Mr. GARRETT. The planning, programming, and budgeting system (PPBS) does indeed entail a lengthy and difficult process. However, several factors must be kept in mind. First, DOD utilizes its resource for a vast universe of endeavors, ranging from the construction of aircraft carriers to the operation of daycare centers. No fast or simplistic system could adequately handle the allocation of a resource mix of the complexity found within DOD. Careful deliberation is necessary, particularly since the ultimate product profoundly influences our national security. Furthermore, the changes which have occurred in the world over the past year were unprecedented in the previous 40 years. No reasonable resource allocation process could have kept up with such fast changing events. PPBS provides a system capable

of handling the complexity and still providing an opportunity for pertinent information to be brought to the attention of key decisionmakers.

It is worth keeping in mind that even though it is not perfect, many consider PPBS to be the best resource allocation process in the Federal Government. For example, when the Department of Energy was looking for a new method of budgeting, the Office of Management and Budget recommended that they first look at PPBS. Given the immense job which is required, PPBS has served the Department of Defense well.

OFFICER CAREER PATHS

Senator MCCAIN. I am deeply concerned that career officers in the U.S. Navy—particularly those in naval aviation, the carrier forces, and other surface forces—now face major barriers in achieving the top flag ranks in the Navy. I gather that many of these barriers are the result of action like the legislation requiring joint service assignments. Could you comment on whether you have found such problems to exist, and provide a detailed qualitative and statistical analysis of such problems for the record, and specific recommendations that can correct this situation?

Mr. GARRETT. There are many competing demands for the skilled warrior. The most important is operational proficiency which can only be gained aboard ship or in a cockpit. Our job, as leaders, is to afford each individual ample opportunity to gain and hone these skills and to develop into a leader of the future. We carefully monitor the career path of each officer and we ensure that he or she is given the opportunity to excel at sea. This monitoring also requires us to ensure that the legal requirements for promotion to flag are met by assigning people to joint service. We are doing that. I can and do request waivers for individuals whose career assignments have not given them the opportunity to gain joint experience. I am satisfied that the Navy's promotion system recognizes the very best in selection to flag and the law does not prevent a qualified individual from being selected.

PERSONNEL REPROGRAMMING

Senator MCCAIN. I am getting mixed signals regarding the need each service has for the reprogramming of the fiscal year 1991 budget. I gather that reprogramming may have special urgency for the U.S. Navy. Could you comment on these issues and undertake to provide a detailed description of the problems involved for the record?

Mr. GARRETT. Reprogramming does have special urgency for the U.S. Navy. Our issue is with the fiscal year 1990 budget which was authorized and appropriated in November 1989. As a result of adjustments to our budget and sequestration, our personnel accounts were $417 million short when compared to authorized programs and strength. When we learned of this near the end of the first quarter of the fiscal year, we immediately took actions to reduce expenditures. I delayed bringing on recruits for winter and spring accession until the summer months. We are experiencing high retention and low first term attrition and these positive trends enabled us to lower the number of recruits brought aboard. Through these and related efficiencies, we were able to cover $132 million leaving a balance of $285 million needed to execute the account as authorized by Congress.

If Navy were to begin reducing expenditures to account for $285 million based on a 1 April notification, the following actions would take place. Navy would delay commissioning for summer NROTC graduates until fiscal year 1991. One thousand three hundred and three young men and women would be affected. We would eliminate much of our enlisted recruiting, impacting at least 13,600 personnel. I would delay the promotion of 10,000 officers and 28,000 enlisted personnel taking the money from them to pay the bill. We would cease the Selective Reenlistment Bonus Program on 1 May eliminating 9,655 reenlistments of technical personnel. Fourteen thousand programmed change of station moves would be cancelled creating shortages at many commands, prolonging arduous tours at exactly the wrong time as there would be little flow into the Navy to lessen the impact. We would involuntarily release approximately 1,200 officers and 12,500 enlisted personnel with little notice.

Previous actions of these types produced personnel losses far greater than predicted as the morale and motivation to stay in our Navy waned. In 1988, faced with fiscal shortages, Navy took much smaller negative steps and lost over 14,000 personnel when the "rush to leave" destroyed reenlistment programs.

There are very good personnel policies working in today's Navy. Reenlistment rates are the highest in years. The numbers of personnel with disciplinary problems who fail to complete their enlistments are falling. Promotions are coming on time;

transfers are made when expected; people believe we care about them and respond by staying with us. Trust, and the high readiness it has produced, can be destroyed in a short time. In this case, the damage will be so great as to take years to repair. We owe our people and Nation a better outcome.

I realize our Navy will be smaller in the years ahead. We have developed orderly plans to accomplish reductions and do so in a way that protects people and readiness. We can do this if we reduce our strength in step, and only in step, with force level reductions. If personnel numbers get out of balance with ship and squadron billets that must be filled, those who remain in the Navy will bear the brunt of our actions. They will perform longer and longer sea tours and will work under reduced manning conditions that make service even more arduous. They will, as they did in the 1970s, leave us, and we will start a downward spiral that is extremely difficult and expensive to arrest. The ability to recover will have been lost for many years as the actions of fiscal year 1990 to reduce expenditures by $285 million will have eliminated the very people we will need to take corrective action. If the reprogramming is not permitted, I will have to take actions that will be devastating to our men and women and will reduce personnel readiness to its lowest point in over a decade. I will, in a few short months, drive toward the problems of a hollow force that were encountered in the late 1970s. We will enter the 1990s in worse shape than we entered the 1980s.

For the Marine Corps, absorption of the $85.7 million in fiscal year 1990 will require demanding personnel actions which would have major impacts on the quality and readiness of the corps. We have already absorbed $22.4 million in unfunded increases in entitlements authorized by Congress for fiscal year 1990. We did this through a variety of actions, including a voluntary early release program currently underway. Further cost saving measures will incur a degradation in readiness and increase personnel turbulence. Actions likely to become necessary if we are forced to absorb $85.7 million include the following:

—Delay 582 NROTC/PLC commissionings

—Reduce officer/enlisted accessions by 6,459

—Involuntary early release of 6,153 from fiscal year 1990/4,129 from fiscal year 1991

—Reduce SRB program by 2,097 new payments

—Cancel 6,946 PCS moves

Denial of reprogramming for the Marine Corps' $85.7 million share of sequestration will eliminate the progress we have made in our manpower programs. Complete disruption of proper force management policies would result. Breaking faith with our marines, and subsequent negative perceptions, will have the unintended effect of driving even more marines from our ranks. Our commitments will not be reduced with our end-strength. Fewer marines will be forced to bear a bigger burden.

On behalf of the Navy and Marine Corps, I urge your continued support in approving the required reprogramming.

FORCE STRUCTURE

Senator MCCAIN. I have heard reports that the Department of Defense is now examining guidance for fiscal year 1992 that could cut the Navy's force structure by two more carriers and one Active and one Reserve air wing. Could you describe what planning activities and/or guidance, if any, are underway that might lead to such force cuts? Would you undertake to provide for the record a full discussion of the risks such force cuts would impose in terms of reduced U.S. contingency capability and the problems they could impose in terms of operating tempos and retaining skilled career manpower?

Mr. GARRETT. Determining the proper mix and balance of our force structure is part of the program objectives memorandum (POM) process in which we are currently involved. All alternatives and their resultant ramifications will be considered in the course of developing the POM.

ATF

Senator MCCAIN. With the cancellation of the F-14D program, the Navy is dependent on the ATF program for its future fighter for fleet air defense. What are the Navy's plans if the ATF program is cancelled? Will the ATF meet Navy requirements if the program is restructured as a single-engined short-range aircraft? How long can the Navy maintain enough fighters to equip the air wings for 14 carriers if the ATF is cancelled or is found unsuitable for the needs of the Navy?

Mr. GARRETT. The Navy is committed to the development of a Navy ATF (NATF) as its future fighter. There is every reason to believe that the NATF will meet the requirements of the Navy. In the event that the NATF program is cancelled, the Navy would have to evaluate various options which might be available. A single-engined short-range ATF will not meet the needs of the Navy. Single-engine aircraft are an unacceptable safety liability to carrier-based aviation. Additionally, a short-range fighter does not meet the Navy's requirements for air superiority, particularly in the outer air battle. The Navy will be able to equip the air wings for 14 deployable carriers until approximately the year 2000, depending on various controlling factors.

PHOENIX

Senator MCCAIN. The primary manufacturer of the AIM-54C Phoenix missile, Hughes Aircraft Company, experienced a series of quality problems in 1984. Hughes Aircraft instituted a program to address these problems by modernizing the Phoenix production facility at significant expense to the contractor. What are the most recent mean time between failure (MTBF) rates for the Navy's air-to-air missiles? How does the current AIM-54C Phoenix missile's MTBF compare with other missiles, including less sophisticated weapons? Is the fleet satisfied with the Phoenix missile's MTBF?

Mr. GARRETT. Sparrow is currently demonstrating over [deleted] MTBF and Sidewinder is demonstrating over [deleted] MTBF. The current MTBF figure for AIM-54C is over [deleted] and compares favorably to our other fleet-deployed air-to-air missiles. The Navy is satisfied with these MTBF values.

Senator MCCAIN. In prior years, the committee shared the Navy's concern about Phoenix cost. What is the current unit cost of the Phoenix and how does this cost compare to previous years? How does this cost relate to the procurement cost of other missiles of similar complexity?

Mr. GARRETT. The fiscal year 1990 procurement unit cost for an all up round Phoenix was $480,000, a decrease of $246,000 from the previous year. A fair cost comparison with the only other air-to-air missile of similar complexity, AMRAAM, is not possible due to the two missiles' different stages of development and production.

Senator MCCAIN. Why is Phoenix procurement being terminated before its replacement has even reached IOC? Could the current Navy inventory support even a regional conflict similar to the Falklands conflict in 1982 without drawing down to an unacceptable level? Should the Navy maintain a warm production line until the Phoenix replacement (AAAM) completes the demonstration and validation phase of development to guard against even limited war contingencies? What is the projected unit price of the AAAM?

Mr. GARRETT. Phoenix was terminated after carefully weighing the risks associated with cancellation and the requirement to field a weapon fully capable of meeting the projected next century threat. Our current inventory more than supports any postulated regional conflict with adequate reserve. Maintenance of a warm Phoenix production line is unaffordable in the current fiscal environment considering higher priority requirements. The projected unit cost for AAAM is estimated to be $950,000 then-year dollars.

Senator MCCAIN. The Navy has spent upwards of $65 million on productibility and performance improvements to the AIM-54C. What are the Navy's plans to incorporate these capabilities into the AIM-54C? Could they be incorporated into some of the fiscal year 1990 missile buy? What plans does the Navy have to retrofit these upgrades into existing AIM-54C missiles? Could the Navy maintain a warm production line by using the manufacturer's facilities to incorporate the upgrades?

Mr. GARRETT. We are currently evaluating various alternative plans to enhance the operational capability of our inventory of AIM-54C missiles. Your question covers several of the alternatives being evaluated. Our plans will be finalized and brought forward with next year's budget.

V-22 PROGRAM

Senator MCCAIN.During last year's defense authorization conference, the conferees asked for and received the cost and schedule impact on the V-22 program under several funding scenarios, including denying procurement funds in fiscal year 1989 and fiscal year 1990. Although Congress left the fiscal year 1989 funds intact, DOD deferred those funds and terminated all long lead procurement efforts in December 1989. What is the cost impact of this decision on the V-22 program if Congress decides to restore the program?

Mr. GARRETT. An exact answer to this question would be dependent upon the way in which the program is restructured, i.e., completion of full scale development, production planning factors, ramp-up rate, etc. In general terms, though, we would estimate that the termination actions will add approximately $850 million to $900 million over the life of the program. These costs are attributable to escalation, loss of vendor certification, and loss of not-to-exceed production options.

Senator MCCAIN. Recent testimony indicated that the Department was committed to completing the development of the V-22. The fiscal year 1991 budget does not include any development funds for the V-22. Would you please comment on this?

Mr. GARRETT. Since the V-22 program was terminated in fiscal year 1989 by the Secretary of Defense, there is no fiscal year 1991 request for funding. Fiscal year 1990 funding to continue the R&D program was mandated by Congress.

Senator MCCAIN. Are you aware of any additional Navy missions being examined by the V-22 IDA COEA study? Has the Department been asked for information or recommendations for the study?

Mr. GARRETT. IDA was tasked by the executive steering committee to evaluate an ASW application of the V-22 as an excursion to the main study. IDA was directed to provide that data with their COEA during the April/May timeframe. The approach taken by IDA was to begin with the initial COEA done by CNA and expand the existing study to include new sensors. IDA has indicated they will brief the ASW portion of the study to the executive steering committee.

MARINE CORPS APN

Senator MCCAIN. What has been the Marine Corps traditional portion of the APN account? What do you foresee this portion becoming over the next 5 years?

Mr. GARRETT. There is no "Marine Corps traditional portion" of the APN account. The Marine Corps share of the APN account varies slightly from year to year depending on requirements to meet planning and programming objectives. Projections for the next 5 years show that the Department of the Navy, Marine aviation and Navy aviation, has arrived at an equitable apportionment to satisfy the overall requirements of Naval aviation.

RESTRUCTURING OF OUR STRATEGY/FORCE POSTURE

Senator MCCAIN. One of the most critical problems we face during the next 5 years is the restructuring of our strategy and force posture to meet changing strategic and financial conditions. In your personal opinion, what are the major changes we should make in our strategy and force posture if a CFE and START Treaty are signed, if the Soviet and Warsaw Pact continue to decline as threats, and if real defense spending drops to levels no higher than those called for by President Bush?

Mr. RICE. The national military strategy continues to emphasize deterrence—combining forward defense and flexible response to ensure that no adversary could ever expect to gain by attacking the United States or its allies. This strategy supports enduring national security objectives, while providing for a coherent, cost-effective development of military forces. In addition, to maintain effective deterrence in the future, our strategic nuclear forces, theater nuclear forces, and conventional forces must remain balanced. While the probability of conflict with the Soviets is declining, the Air Force must continue to provide a visible presence in Europe that demonstrates commitment, assures day-to-day access, and represents real military capability across the spectrum of conflict (nuclear and conventional).

Although arms control and changes in the Soviet threat will allow us to alter our force structure, including the number of U.S. forces permanently stationed overseas, U.S. forces will still be required to balance regional power centers. Our forces must be mobile, flexible, rapidly deployable over longer distances, and able to respond with unprecedented precision and effectiveness. Accordingly, we must structure our Air Force such that there remains an appropriate balance between CONUS and overseas bases, and Active and Reserve components.

Our basic nuclear strategy will remain largely unchanged. It is key to maintaining stability and balance with the Soviet Union and in deterring any other potential aggressor. However, the outcome of current events, including arms control negotiations, will change the qualities and quantities required of nuclear forces. Arms control will change strategic nuclear force planning. Triad modernization will remain important in light of the reduced force levels dictated by START. The focus of these efforts should be to provide stable deterrence vis-a-vis the Soviets while providing a credible deterrent capability against emerging regional nuclear powers.

Senator MCCAIN. What major changes do you believe will be called for in terms of strategy and roles and missions?

Mr. RICE. In structuring our forces to support the national military strategy, we can neither adopt the unrealistic assumption that nothing has changed, nor the historically naive presumption that everything has changed. Indeed, the heartening changes we see in the Soviet Union and Eastern Europe reflect the success of our policies. The national military strategy continues to emphasize deterrence—combining forward defense and flexible response to ensure that no adversary could ever expect to gain by attacking the United States or its allies. This strategy supports enduring national security objectives, while providing for a coherent, cost-effective development of military forces.

Requirements for a flexible, mobile, and lethal power projection force will draw heavily on inherent characteristics of airpower: speed, range, flexibility, precision, and lethality. To meet the challenge our strategy must capitalize on modern fighter forces that provide reach with the ability to quickly concentrate and sustain massive, precise, and flexible firepower. We must also capitalize on our air refueling capability, greatly extending our range and flexibility, increasingly important as we reduce forward deployed forces.

Global power projection requires long-range, high endurance, large payload capabilities. To that end, the conventional role of the heavy bomber remains pertinent. Long-range bombers can reach any location on the globe, staging from secure bases, with only a single aerial refueling.

It is important to remember that even with a declining near-term threat, the Soviet military capability remains high and continues to require U.S. counter-balancing forces, including the significant contributions of strategic nuclear, theater nuclear, and conventional capabilities. Consequently, we must continue to contribute to deterrence across the range of possible threats, and be able to respond appropriately.

Our support of counter-drug operations will also become more important. We are committed and uniquely postured to employ surveillance assets and other capabilities to help stem the flow of drugs. Our surveillance and airlift capabilities multiply the special operations forces' contribution to the national drug control strategy.

We anticipate no change or realignment in roles and missions across the services, although some roles and missions may increase in importance, such as counternarcotics on a day-to-day basis and airlift on a wartime footing.

Reduced force levels, increased emphasis on maneuver warfare, and access to fewer forward bases will necessitate an even greater dependence on the force-enhancing capabilities of space systems. These systems are essential for monitoring treaty compliance, command and control, communications, navigation, environmental monitoring, surveillance and warning [deleted].

Senator MCCAIN. What major changes in total force structure?

Mr. RICE. In structuring our forces to support the national military strategy, we can neither adopt the unrealistic assumption that nothing has changed, nor the historically naive presumption that everything has changed. Indeed, the heartening changes we see in the Soviet Union and Eastern Europe reflect the success of our policies. The national military strategy continues to emphasize deterrence—combining forward defense and flexible response to ensure that no adversary could ever expect to gain by attacking the United States or its allies. This strategy supports enduring national security objectives, while providing for a coherent, cost-effective development of military forces.

The maintenance of a stable nuclear balance vis-a-vis the Soviet Union must remain paramount—only Soviet nuclear forces threaten our national survival. Conventional capabilities that provide a rapid, tailored response with a capability to apply force selectively, anywhere on the globe, will remain essential to keep local conflicts and tensions from spreading and threatening U.S. interests and allies. U.S. forces must be capable of hitting hard, precisely, and terminating conflict quickly in order to deter aggression or the threat of it. The requirement for these capabilities is not new, but the balance among them is shifting—reduced emphasis on combating heavy Soviet conventional forces and more attention to other global contingencies.

Given the unpredictability of the future, our force planning must call for an increased emphasis on force projection capabilities—a shift toward even more flexible, rapidly responding, precise, lethal forces with global reach. The Air Force's focus will be on emphasizing those inherent characteristics of airpower—speed, range, flexibility, precision, and lethality—which best support U.S. national security in the uncertain world of the 1990s and beyond. Our planning will be conducted in complementary fashion with that of the Army and Navy.

Senator MCCAIN. What changes in power projection forces?

Mr. RICE. The future security environment will demand U.S. forces that are capable of rapid global power projection. This necessity for flexible and long-range power projection will see increased reliance on land-based air power because of its inherent speed, range, flexibility, lethality, and sustainability. In joint actions, air forces will join ground forces in spatial control and naval forces in access control. The Air Force is unique among the services in that it can cover any distance, unconstrained by geography; move quickly; concentrate force with surprise and speed; and offer a range of lethal and non-lethal response options to U.S. decisionmakers.

The power projection capabilities of the U.S. Air Force are unmatched. With one refueling, long-range aircraft (bombers, airborne warning and control system (AWACS), airlifters) can project conventional power to any spot on the earth's surface within 24 hours. With the Air Force's emphasis on lean and mean operations, tactical air power moves forward with very little baggage compared to the firepower it delivers. As an example, just one squadron of F-15Es or 8 B-2s can match the daily ordnance capability of an entire carrier battle group, is highly survivable and can project this power with few additional support assets. Another often overlooked capability of long-range bombers is sea control and surveillance. Two B-52s can surveil an area the size of the South China Sea. Long-range bombers have an unmatched mining capability and provide quick response anti-ship capability.

History has shown that land-based air can be quickly used to support our national interests, giving our National leadership the flexibility to adequately respond to rapidly emerging situations. When North Korea invaded the South, the Air Force was fighting the next day. In Operation Just Cause, Air Force F-117s and AC-130 gunships, launched from the United States, were at their targets within seconds of the pre-planned time, only 48 hours after the decision to execute.

Airlifters, tankers, surveillance aircraft, and command and control aircraft are also valuable in power projection. For example, AWACS aircraft have often demonstrated national influence simply by observing the adversary's every move.

Land-based air has been very successful at achieving political objectives. A Brookings study examined the use of military forces to achieve political objectives in the postwar era, concluded that the use of land-based combat aircraft was associated with higher percentages of positive outcomes than were ground forces or major naval forces. The Air Force can deter, provide a tailored response, or punch hard when required. The quickest, most versatile military force available to the President is, in most cases, the U.S. Air Force. While the services must continue to augment and complement each other in joint operations, the Air Force is best able to concentrate force over great distances in a responsive manner.

Senator MCCAIN. What changes in rapid deployment capabilities?

Mr. RICE. Rapid deployment capability is absolutely essential to our future strategy. U.S. overseas forces will likely be reduced in many areas of the world. While the risk in Europe has been reduced, Third World conflicts continue to erupt. The requirement for airlift to support our commitments throughout the world continues to exceed our capability. We must be able to deter conflict when our key national interests are at stake. Clearly, this means we will rely more than ever on fast deployment capabilities.

The C-17 program is key to providing fast deployment capability to respond to threats worldwide. The C-17 overcomes both the quantitative and qualitative shortfalls that exist with today's fleet. The C-17 program increases our strategic airlift capability by one third and reduces theater airlift requirements by directly delivering equipment and supplies to forward locations. On the quantitative side, improved ground maneuverability and shorter ground time gives the C-17 the ability to mass three times the force of the C-5. Additionally, shorter landing distances give us the flexibility to operate into three times the number of airfields as the C-5 or C-141.

B-2

Senator MCCAIN. I am deeply concerned about the nature of the current debate over the B-2. On the one hand, there is growing pressure to cancel a program where the Government has already spent roughly $20 billion, and on the other, the Air Force is pushing for a total buy of 132 aircraft and annual rates of production which I believe that the Air Force already privately recognizes will never be funded. I would like your personal views—and I stress the word personal on the strengths and weaknesses of a total buy of 60-80 aircraft, purchased at low enough annual rates to avoid making the B-2 into a budget breaker, and on the impact of such a lower total buy on the military effectiveness of the program and START, and of the cost benefits of going to lower annual procurement rates.

Mr. RICE. As you know, the Department of Defense is currently evaluating several alternative procurement quantities for the B–2 program and several other major aircraft programs in the major aircraft review, or MAR, as it is called. To get into specifics regarding a reduced quantity of B–2s prior to the outcome of the MAR would be premature; however, I can give you some general comments. Granted, such a move allows some near-term budget flexibility. However, the cost inefficiency of buying a reduced number of aircraft at significantly reduced rates could outweigh the benefits of near-term budget reductions. The B–2 procurement program has been laid out, with the consent of Congress, to provide a cost efficient program, and includes significant cost reduction initiatives which require investment now in order to realize cost savings downstream. The production facilities and tooling are in place—we have already paid for that. We should now capitalize on the investment and build the aircraft at the most efficient rate possible, given projected funding trends.

Regarding the impacts of a reduced buy on START, the Chairman of the Joint Chiefs of Staff, the Air Force Chief of Staff, and the Commander in Chief of the Strategic Air Command have all stated that a change in B–2 quantity will require a reassessment of our START Treaty negotiating position. The JCS staff, as a part of the MAR process, is also evaluating the impacts of a reduced quantity of B–2s on overall military effectiveness. This study should be complete in the near future, and will be incorporated in the Secretary's final decisions on the major aircraft reviews.

EFFICIENT RATES OF PRODUCTION

Senator MCCAIN. More generally, I am deeply concerned about the use of "efficient rates of production" in the Air Force and Department of Defense planning. In many cases, the efficient rates seem to have been driven far too high because the Department is unwilling to write off the over-facilitization that occurred because it gave manufacturers requirements it no longer can hope to fund, and will not renegotiate a more realistic schedule for profitability. In other cases, it risks gravely wounding our industrial base. Could you provide us with your personal views on this issue?

Mr. RICE. Any perturbations, especially budget or threat changes, could lead to inefficient production rates. The contracts must be modified to reflect these changes. Reduced quantities may create overcapacity which could effect competitiveness, especially in heavily defense oriented firms. Over-facilitization cannot be written off since much of the cost is fixed. Bottom line is, as we reduce we will find ourselves in an over-facilitization status in many programs, none of which were pre-planned.

PLANNING AND BUDGETING SYSTEM

Senator MCCAIN. The current planning and budgeting system affecting the military services seems to be taking so long to produce inputs, and the lag between such inputs and the final budget decisions is so great, that vast amounts of staff work are being generated to little practical purpose. What do you personally believe the weaknesses are in the current planning, programming, and budgeting system and cycle, and what should be done to improve it and make it more responsive?

Mr. RICE. There are two basic forces which affect the ability of the biennial planning, programming, and budgeting system (BPPBS) to produce timely products. The first is the current fiscal environment. The dramatic increase in the number and tempo of changes in potential threats and the resultant downward funding trend have forced the system to review and reprioritize many more programs than normal. The BPPBS is designed to produce products on a "bi-annual" cycle. It is not intended to be a short notice rebudgeting process. The second is change within the system itself. DOD is nearing completion of its transition from an annual to a biennial system. This transition has caused some delays while various technical problems are corrected.

PROXIMITY SENSOR

Senator MCCAIN. The Air Force and the Navy have a long standing requirement for a proximity sensor for high explosive bombs delivered in the retarded or high drag mode. The services now have over 370,000 FMU–139/B fuzes (designed to work with a proximity sensor), and over 300,000 retarders in their stockpiles, but no proximity sensor compatible with this hardware now that the DSU–30/B program is cancelled. What is your plan for meeting this Air Force and Navy requirement?

Mr. RICE. The Air Force will conduct an armament fuze conference in the April/May 1990 timeframe. This conference will readdress all existing and planned fuze

requirements and develop a roadmap for future Air Force fuze development efforts. Emphasis will be placed on possible consolidation of requirements to preclude fuze proliferation and resolve existing shortfalls.

With respect to the existing requirement for a high drag proximity sensor capability, the Air Force is exploring several possible solutions. We received OSD approval in February 1990 to conduct a foreign weapons evaluation of the multifunction bomb fuze (MFBF) which Thorn EMI (UK) has been producing for the RAF since 1986. In addition to providing a high drag proximity capability, the fuze also provides capability in hard target and general purpose applications. Additionally, the Air Force is assessing current proximity sensor technology to determine if a low cost, specialized proximity sensor could be developed and produced by the mid-1990 timeframe.

Questions Submitted by Senator Slade Gorton

SEA LANCE

Senator Gorton. During the last several years in testimony before this committee and others, it was repeatedly stated that Sea Lance was being developed to fill the Navy's stated requirement for a long range ASW standoff weapon for our submarines and surface ships. What has happened to that requirement that has caused the Navy to cancel the program?

Mr. Garrett. The requirement for a long range ASW standoff weapon for submarines and surface ships is still valid. However, the development and procurement of the Sea Lance ASW standoff weapon is not affordable under the present fiscal climate.

Senator Gorton. On page 18 of your testimony you state, "the Navy's top warfare priority is anti-submarine warfare . . . ." Given this fact, why then has the Navy recommended terminating Sea Lance, the only long range ASW standoff weapon in development?

Mr. Garrett. The development and procurement of the Sea Lance ASW standoff weapon is not affordable under the present fiscal climate. An assessment of ASW mission area requirements determined that the gain in warfighting utility from the Sea Lance program was less significant compared to improvements in sensor and combat control systems upgrades.

Senator Gorton. Since the Navy is recommending terminating Sea Lance, does that mean the Navy will also recommend terminating the SSN-21 (Sea Wolf) program, since Sea Lance is the only weapon that will give the SSN-21 the ability to defend itself at ranges outside the range of current Soviet submarine launched ASW weapons?

Mr. Garrett. The significant improvements in submarine quieting that have been incorporated into the SSN-21 design will ensure its acoustic advantage over threat submarines out to the effective torpedo engagement ranges. Therefore, although Sea Lance would have provided added firepower and a long range capability to SSN-21, the employment of Sea Lance is not critical to the performance of SSN-21.

Additionally, SSN-21's mission is not limited to ASW. This is a multi-mission platform which has capabilities to conduct strike, mining, surveillance, and special warfare missions.

Senator Gorton. Is it not true that based upon the Navy's award fee evaluations, the Sea Lance program has been judged overall an excellent program the past 3 years, and excellent to outstanding from a technical standpoint? Does it not sound like the program is experiencing any technical problems that would justify cancellation?

Mr. Garrett. The award fee evaluations in the last 3 years have judged Boeing to be overall excellent or good (nearly excellent) with one outstanding; the good evaluations were for the periods ending September 1987, May 1989, and January 1990, the outstanding was for the period ending May 1987. The evaluations for technical performance have been excellent or outstanding.

The decision to cancel the Sea Lance program was not based on the performance of any of the contractors. The decision was made based on the overall program cost in the present fiscal climate where it was judged to not be affordable.

[Whereupon, at 5 p.m., the hearing was adjourned.]

DEPARTMENT OF DEFENSE AUTHORIZATION FOR APPROPRIATIONS FOR FISCAL YEAR 1991

WEDNESDAY, FEBRUARY 28, 1990

U.S. SENATE,
COMMITTEE ON ARMED SERVICES,
Washington, DC.

AMENDED DEFENSE AUTHORIZATION REQUEST FOR FISCAL YEAR 1991 AND THE FISCAL YEARS 1991-1995 FIVE YEAR DEFENSE PLAN

The committee met, pursuant to notice, at 9:05 a.m., in room SD-106, Senator Sam Nunn (chairman) presiding.

Committee members present: Senators Nunn, Exon, Dixon, Glenn, Warner, Thurmond, Cohen, Gorton, and Lott.

Committee staff members present: Arnold L. Punaro, staff director; Andrew S. Effron, general counsel; Marie Fabrizio Dickinson, assistant chief clerk; and Richard D. DeBobes, counsel.

Professional staff members present: Robert E. Bayer, Robert G. Bell, John J. Hamre, William E. Hoehn, Jr., David S. Lyles, Norman G. Mosher, and Frederick F.Y. Pang.

Minority staff members present: Patrick A. Tucker, minority staff director and counsel; Romie L. Brownlee, deputy staff director for the minority; Brian D. Dailey, Judith A. Freedman, Ronald P. Kelly, George W. Lauffer, John E. Mansfield, Durwood W. Ringo, Jr., and Mark B. Robinson, professional staff members.

Staff assistants present: Cindy Pearson, Kelli J. Pronovost, and Melissa A. Ramsey.

Committee members' assistants present: Andrew W. Johnson, assistant to Senator Exon; Kenneth N. Luongo, assistant to Senator Levin; Charles C. Smith, assistant to Senator Dixon; Milton D. Beach, assistant to Senator Glenn; Leon S. Fuerth, assistant to Senator Gore; Terence M. Lynch, assistant to Senator Shelby; Dale F. Gerry and James M. Bodner, assistants to Senator Cohen; Patrick F. McCartan, assistant to Senator Wilson; Anthony H. Cordesman, assistant to Senator McCain; Lee W. Whittaker, assistant to Senator Wallop; Charles G. Pearcy, assistant to Senator Lott; and Eric H. Thoemmes, assistant to Senator Coats.

OPENING STATEMENT OF SENATOR SAM NUNN, CHAIRMAN

Chairman NUNN. The committee meets today to continue our hearings on the implications of the changes in the Soviet Union and Eastern Europe for our national security strategy, our military strategy and ultimately our defense budget.

This morning we will be hearing from the uniform chiefs of the military services. Senator Warner and I asked the chiefs to focus their testimony on the amended budget request for fiscal year 1991 and the Five Year Defense Plan, on how they envision their services changing over the next 5 years; on their services' capability to fulfill the current and future operational requirements of the unified and specified combatant commands; and on any long term changes in their services which will be necessary even beyond 5 years if current trends in the international security environment continue. Without objection a copy of the letter of invitation from Senator Warner and myself will be placed in the record at this point.

[The information follows:]

U.S. SENATE,
COMMITTEE ON ARMED SERVICES,
Washington, DC, January 9, 1990.

Gen. CARL E. VUONO, USA,
Chief of Staff, Pentagon, Room 3E668,
Washington, DC.

DEAR GENERAL VUONO: In each of the last three years, the Armed Services Committee has begun its work with a series of broad policy and strategy hearings. This year, the Committee will continue this practice by conducting hearings on the extent to which the threat on which our past national security policy, military strategy, and defense budgets were based is changing. These hearings will then address how U.S. military strategy and defense budgets should be adjusted; the role our allies should play in light of these changes; and how the amended fiscal year 1991 budget responds to these changes. During these hearings the Committee will hear from current and former senior Defense Department officials; from representatives of the U.S. Intelligence Community; from outside experts in the United States and Europe; and from U.S. Combatant Commanders.

We would like to invite you to testify with the other Service Chiefs on Wednesday, February 28 at 9:00 a.m. on the amended budget request for fiscal year 1991 and the Five Year Defense Plan. It will be particularly important to our deliberations this year for you to outline how you envision the Army changing over the next five years. The Committee will also be interested in your views on the Army's capability to fulfill the current and future operational requirements of the unified and specified combatant commands; your assessment of the Army's current operational deficiencies; and the extent to which the amended budget request and the Five Year Defense Plan (FYDP) correct those deficiencies. We also request that you address any long term changes in the Army which you believe will be necessary, even beyond the period of the Five Year Defense Plan, if current trends in the international security environment continue.

Thank you for your willingness to testify. If you have any questions, please do not hesitate to contact us, or to have your staff contact Mr. Rick DeBobes of the Committee staff. We look forward to hearing your testimony.

Sincerely,

SAM NUNN,
Chairman.
JOHN W. WARNER,
Ranking Minority Member.

U.S. SENATE,
COMMITTEE ON ARMED SERVICES,
Washington, DC, January 9, 1990.

Adm. CARLISLE A.H. TROST, USN,
Chief of Naval Operations, Department of the Navy,
Washington, DC.

DEAR ADMIRAL TROST: In each of the last three years, the Armed Services Committee has begun its work with a series of broad policy and strategy hearings. This year, the Committee will continue this practice by conducting hearings on the extent to which the threat on which our past national security policy, military strat-

egy, and defense budgets were based is changing. These hearings will then address how U.S. military strategy and defense budgets should be adjusted; the role our allies should play in light of these changes; and how the amended fiscal year 1991 budget responds to these changes. During these hearings the Committee will hear from current and former senior Defense Department officials; from representatives of the U.S. Intelligence Community; from outside experts in the United States and Europe; and from U.S. Combatant Commanders.

We would like to invite you to testify with the other Service Chiefs on Wednesday, February 28 at 9:00 a.m. on the amended budget request for fiscal year 1991 and the Five Year Defense Plan. It will be particularly important to our deliberations this year for you to outline how you envision the Navy changing over the next five years. The Committee will also be interested in your views on the Navy's capability to fulfill the current and future operational requirements of the unified and specified combatant commands; your assessment of the Navy's current operational deficiencies; and the extent to which the amended budget request and the Five Year Defense Plan (FYDP) correct those deficiencies. We also request that you address any long term changes in the Navy which you believe will be necessary, even beyond the period of the Five Year Defense Plan, if current trends in the international security environment continue.

Thank you for your willingness to testify. If you have any questions, please do not hesitate to contact us, or to have your staff contact Mr. Rick DeBobes of the Committee staff. We look forward to hearing your testimony.

Sincerely,

SAM NUNN,
Chairman.
JOHN W. WARNER,
Ranking Minority Member.

U.S. SENATE,
COMMITTEE ON ARMED SERVICES,
Washington, DC, January 9, 1990.

Gen. LARRY D. WELCH, USAF,
Chief of Staff, Pentagon, Room 4E924,
Washington, DC.

DEAR GENERAL WELCH: In each of the last three years, the Armed Services Committee has begun its work with a series of broad policy and strategy hearings. This year, the Committee will continue this practice by conducting hearings on the extent to which the threat on which our past national security policy, military strategy, and defense budgets were based is changing. These hearings will then address how U.S. military strategy and defense budgets should be adjusted; the role our allies should play in light of these changes; and how the amended fiscal year 1991 budget responds to these changes. During these hearings the Committee will hear from current and former senior Defense Department officials; from representatives of the U.S. Intelligence Community; from outside experts in the United States and Europe; and from U.S. Combatant Commanders.

We would like to invite you to testify with the other Service Chiefs on Wednesday, February 28 at 9:00 a.m. on the amended budget request for fiscal year 1991 and the Five Year Defense Plan. It will be particularly important to our deliberations this year for you to outline how you envision the Air Force changing over the next five years. The Committee will also be interested in your views on the Air Force's capability to fulfill the current and future operational requirements of the unified and specified combatant commands; your assessment of the Air Force's current operational deficiencies; and the extent to which the amended budget request and the Five Year Defense Plan (FYDP) correct those deficiencies. We also request that you address any long term changes in the Air Force which you believe will be necessary, even beyond the period of the Five Year Defense Plan, if current trends in the international security environment continue.

Thank you for your willingness to testify. If you have any questions, please do not hesitate to contact us, or to have your staff contact Mr. Rick DeBobes of the Committee staff. We look forward to hearing your testimony.

Sincerely,

SAM NUNN,
Chairman.
JOHN W. WARNER,
Ranking Minority Member.

U.S. SENATE,
COMMITTEE ON ARMED SERVICES,
Washington, DC, January 9, 1990.

Gen. A.M. GRAY, USMC,
Office of the Commandant, Code CMC, Headquarters, U.S. Marine Corps, Washington, DC.

DEAR GENERAL GRAY: In each of the last three years, the Armed Services Committee has begun its work with a series of broad policy and strategy hearings. This year, the Committee will continue this practice by conducting hearings on the extent to which the threat on which our past national security policy, military strategy, and defense budgets were based is changing. These hearings will then address how U.S. military strategy and defense budgets should be adjusted; the role our allies should play in light of these changes; and how the amended fiscal year 1991 budget responds to these changes. During these hearings the Committee will hear from current and former senior Defense Department officials; from representatives of the U.S. Intelligence Community; from outside experts in the United States and Europe; and from U.S. Combatant Commanders.

We would like to invite you to testify with the other Service Chiefs on Wednesday, February 28 at 9:00 a.m. on the amended budget request for fiscal year 1991 and the Five Year Defense Plan. It will be particularly important to our deliberations this year for you to outline how you envision the Marine Corps changing over the next five years. The Committee will also be interested in your views on the Marine Corps' capability to fulfill the current and future operational requirements of the unified and specified combatant commands; your assessment of the Marine Corps' current operational deficiencies; and the extent to which the amended budget request and the Five Year Defense Plan (FYDP) correct those deficiencies. We also request that you address any long term changes in the Marine Corps which you believe will be necessary, even beyond the period of the Five Year Defense Plan, if current trends in the international security environment continue.

Thank you for your willingness to testify. If you have any questions, please do not hesitate to contact us, or to have your staff contact Mr. Rick DeBobes of the Committee staff. We look forward to hearing your testimony.

Sincerely,

SAM NUNN,
Chairman.
JOHN W. WARNER,
Ranking Minority Member.

Chairman NUNN. At this time, I want to welcome General Carl Vuono, Chief of Staff of the Army; Admiral Carlisle Trost, Chief of Naval Operations; General Al Gray, Commandant of the Marine Corps; and General Larry Welch, Chief of Staff of the Air Force. We are delighted to have each of you with us today. We appreciate your outstanding leadership for the country. We look forward to hearing your views on the future of our military forces in a changing world.

Yesterday we received testimony from the service Secretaries about some of the uncertainties and blank spots in the fiscal 1991 budget, as well as the current Five Year Defense Plan in the areas of force structure, major acquisition programs and additional budget cuts to bring the Five Year Defense Plan in line with the fiscal year 1991 budget and vice versa.

Congress must have a clear vision of where the senior leadership of the Defense Department expects to be 5 years from now before we can act on this year's budget request. I say that knowing how difficult that is in these changing circumstances. But we have got to try to figure where we are going based on certain assumptions. Of course, if the assumptions change, we have to be able to change. We need to have that viewpoint from you today and in the weeks and months to come.

We will have a number of questions after you get through your testimony. But before I call on General Vuono, I will turn to my colleague, Senator Warner.

Senator WARNER. Thank you, Mr. Chairman.

I welcome these four distinguished Americans together with you, recognizing that two, Admiral Trost and General Welch, this may well be your last hearing appearance on budget matters, since you are now concluding your distinguished careers as the chiefs of your respective services.

We are fortunate as a nation to have such qualified and talented individuals as yourselves in this period, when we are about to restructure and draw down our forces. We do that against a unique background of an all-volunteer force. These young men and women, many of them careerists, have a contract with their Nation. And as such, the fiscal imperatives have driven this reduction, and indeed, also the reduction in the threat—although less clear than the fiscal forces—bring about the necessity to restructure.

This all-volunteer force must now acknowledge that some of them will have to depart their services earlier than they had planned. And it will be up to you since you also wear the same uniform to restructure it in such a way that if the bugle ever blows again, we can put it back together.

Their memories will be long, because it is painful. Admiral Trost, you and I went through a restructuring in the latter days of the Vietnam war. And we know full well the problems that result in these force reductions. So remember if we have to build it back up again, we will have to go back to the people and once again ask for volunteers, hopefully never again a draft.

So I wish you luck. We are here to work with you. My only advice is to stay ahead of the power curve of the Congress as best you can, so that you can make your decisions based on many years of professional experience.

Thank you.

Senator NUNN. Thank you, Senator Warner. Senator Dixon and Senator Thurmond have requested that their prepared statements be made part of the record.

[The prepared statements of Senator Dixon and Senator Thurmond follow:]

PREPARED STATEMENT OF SENATOR ALAN J. DIXON

Mr. Chairman, today we will again receive testimony on the President's fiscal year 1991 defense budget request. It is a pleasure to have with us the Chiefs of the Army, Air Force, and Navy, and the Commandant of the Marine Corps.

As I have indicated before, the United States is witnessing a period of historic change in the Soviet Union and Eastern Europe. These developments require Congress, in conjunction with the President and his administration, to look hard at fundamental U.S. defense strategy and force structure.

It is clear to me that the Warsaw Pact threat to NATO security has been drastically reduced. However, I believe I speak for many people when I say that I am less certain about what lies ahead for U.S. national security interests.

Faced with this uncertain situation, we in Congress must take a balanced approach to reviewing the fiscal year 1991 budget request. Defense cuts, at least for this year, should come from budget areas most directly and obviously related to the changed situation in the Soviet Union and Europe. Common sense also dictates that whenever possible the United States should not commit to big ticket new programs that future events could very well make unnecessary. Equally important, we should not eliminate existing capabilities that we need now or might need in the near

future. In other words, when confronted with a choice between maintaining an existing conventional program that we know works, or sacrificing it for a future program that we might not need, I say we stick with what we have.

I am unconvinced that the Bush administration's defense budget request now before Congress takes this sort of sensible, reasonable approach. Strategic nuclear modernization programs, the requirement for which is obviously sensitive to the degree of Soviet threat, emerge from this budget unscathed and even receive substantial funding increases. In contrast, existing conventional capability that we still need is eliminated, while expensive replacements are initiated.

I do not believe that this is a wise direction to take the defense budget in these times.

Mr. Chairman, I look forward to hearing from today's witnesses. Thank you.

PREPARED STATEMENT OF SENATOR STROM THURMOND

Thank you Mr. Chairman. I want to join you and the members of the committee in welcoming our service Chiefs.

Mr. Chairman, I expect that sometime during their military service each of the Chiefs has experienced both the fat and lean years in the defense budgets and that the times they are facing now are not a unique experience. I am confident their 140 plus years of cumulative military service is more than enough preparation for the challenges they are facing as we reduce our Nation's defense budget to meet the fiscal realities and the diminished threat.

Admiral Trost and General Welch, I believe this will be your last appearance before this committee. I want to extend to you my appreciation for your years of loyal and dedicated service and wish you the best in your retirement.

I also want to express my support to and confidence in General Vuono and Commandant Gray for the job they are doing as they face the challenges of the coming years.

Thank you, Mr. Chairman.

Senator NUNN. General Vuono, we will turn to you first this morning.

STATEMENT OF GEN. CARL E. VUONO, CHIEF OF STAFF, U.S. ARMY

General VUONO. Mr. Chairman, it is a privilege for me to appear before the committee again this year. I have a written statement that I would like to submit for the record and then make some brief remarks.

Chairman NUNN. Your statement will be part of the record without objection.

General VUONO. Ordinarily, Mr. Chairman, I would outline our 1991 budget for you, but these are not ordinary times. I would like to spend a little time focusing on our plan for the future to help put this particular budget, that we submitted to you for 1991, in the proper context. I want to make two points at the outset. First, I truly believe that today's Army is trained and ready, better than it has ever been in its over 200 year history. I think that we demonstrate that every day, and we did recently in our operation in Panama, in Operation Just Cause.

Second, we would not be where we are today in our Army without the support of your committee and the American people, especially during the past decade. Together we have ensured that the Army is well prepared for the challenges ahead.

The 1991 budget represents the first year of a plan to reshape the Army to adapt to the strategic environment, the changing threat and fiscal realities, while at the same time fulfilling our re-

sponsibilities in carrying out the national security objectives of this Nation. The 1991 budget should be viewed with the future in mind.

I believe it is prudent to start reshaping the Army now. I also believe—and as Senator Warner so carefully pointed out—that the integrity of our professional force is at stake here, and that we must be out front and manage the change. So let me just talk about the broader plan.

We developed a measured approach to shape the Army that our Nation will need as we enter the 21st century. In essence, we decided to reduce the size of the total force in order to protect the quality and the readiness of the Army today and through the 1990s. To do this, we must systematically build down today's Army. I say build down, and I use the term shaping the Army, not demobilizing the Army. I know that you are well aware, Mr. Chairman, there is a big difference there.

We will shape a smaller force over the next 5 years. In my judgment, quality and readiness are essential. We do not have an option here. There is no substitute for quality, and there can be no retreat from readiness. A restructuring of this magnitude of an all volunteer quality force is unprecedented in our history. Our challenge is to reshape it while we do the following: while we maintain the capabilities needed to support our national military strategy and the needs of our warfighting CINCs; without undermining arms control negotiations that may bring significant security benefits to East and West; while fulfilling our obligations to the soldiers, the family members, and the civilians whose dedication has been indispensable in producing the positive changes we are witnessing around the world; while we invest in the modernization of our forces and the development of our leaders; and we must ensure that we have reversibility in that reshaping, that we can build up again, should the circumstances cause us to do so. In other words, we cannot declare a time-out as we reshape the Army.

Now let me focus on our planning efforts. We determined what the size and the shape of the force would be by considering a number of factors. First of all, we looked at the strategic environment, we considered the threat, we looked at our military strategy, we looked at our doctrine: how we intend to fight the forces, we looked at resource levels, we looked at the requirements laid on us by the theater commanders to determine the kind of forces that we would need in 1995. Forces that are versatile, deployable, and lethal, and that must be capable of countering a wide array of potential and unpredictable threats.

The Army that I am talking about will have to have a mix of heavy, light, and special operations forces in the Active and the Reserve components, be adequately modernized and fully trained and be ready to respond on short notice to challenges across the spectrum of conflict.

We are going to have some forces forward-deployed, they will be smaller in number, but we will have them forward deployed. We have to have forces in the United States who are ready to operate either in a contingency situation or as a reinforcing package for those forward-deployed forces—which in essence is what we did in Panama. We had forward-deployed forces that we reinforced with a

contingency package. It does not make any difference what the size of that package is, but you must have the capability.

I would like to make a point based on history. We went back and did a historical review of how we drew down the size of the Army in the past. We looked at World War II, we looked at Korea, and we looked at Vietnam. What we did in these cases was demobilize, not reshape. There is a big difference. We found that a sharp decline in the capabilities of the force resulted when the Army released large numbers of soldiers from its ranks. You are very familiar with that period of time.

We found that as a result of those lost capabilities, our forces suffered substantial, and I believe avoidable, losses when subsequently committed to unanticipated combat. For example, when we went into Korea in June 1950, one Army division suffered 3,000 casualties in the first 16 days of combat. One unit from that division lost almost one-third of its soldiers and one-half of its officers in their initial engagement—I am speaking of Task Force Smith that moved from Japan into Korea, and went into combat in the early days of war in June 1950.

There is ample evidence to link the unit's performance to the hasty and haphazard way in which the Army was forced to demobilize following World War II. So, I strongly believe that in building down and reshaping today's professional volunteer force, and I must emphasize again that it is reshaping, our Nation should apply the lessons of these past demobilizations. We have never, in recent memory, drawn down a quality volunteer force. It was always a drafted force that we drew down.

So, we intend to do the following. We intend to protect the readiness of the Army to ensure that the United States can continue to meet unexpected threats over the coming decade without needlessly risking the lives of the great young soldiers that we are privileged to lead, by failing to provide them the resources and the training necessary to prepare them for combat.

We also intend to protect the overall quality of the force and our future modernization. I want to say a few words about that. As we get smaller, maintaining the quality of the force will be absolutely essential. The key here is our people. Quality is an all-encompassing characteristic. It is more than just people who require adequate resourcing, we clearly must provide the right resources to attract the very best young men and women into our ranks, and they must get an adequate level of pay and benefits. We also have to provide them appropriate working and living conditions. They should be provided, as a goal, the same quality of life as the citizens they are sworn to defend. We must also provide challenging training opportunities and the potential for advancement and development.

Maintaining quality in all aspects of the force will continue to be the top priority of the Army in the 1990s and beyond. We need the help of this committee and the Congress to ensure we have the flexibility to prudently manage our force reductions so that they have the least impact on quality and readiness. We need your help to ensure that we can execute that plan the way we believe is a smart way.

A few words about modernization. We are committed to developing and deploying the weapon systems needed for the future,

within our fiscal constraints. To do otherwise, I believe, is to put the Nation and our soldiers at risk in dealing with highly sophisticated and technologically advanced threats throughout the world. We have a strategy, consistent with the threat, to tightly manage modernization. This strategy is based on accepting some risk over the near term by modernizing only the most essential warfighting capabilities, while protecting future modernization and our technology base.

We have decided to terminate some programs. These were hard decisions. But we felt it was essential to do that and to focus our limited resources on developing future systems. We also need your help here to ensure that we do not mortgage our future modernization by acquiring nonessential capabilities.

We have stretched ourselves tremendously in putting together this plan. Our proposed reductions are at the most rapid rate that will allow us to maintain needed capabilities as we reshape the Army. I believe that if we are forced into more rapid reductions, they could threaten to fracture the force by causing unacceptable degradation in near term quality and readiness; by requiring us to forego capabilities we deem essential for the future; and by arbitrarily removing large numbers of quality soldiers and civilians from the force.

Finally, I want to again stress that we are not demobilizing a draftee Army at the conclusion of a major conflict. We are reshaping a professional, volunteer force during a period of extraordinary turmoil and instability in the international environment.

We must not forget that the United States has worldwide responsibilities. No one knows that better, Mr. Chairman, than you and members of the committee. We therefore, must have a powerful, capable Army that is trained and ready to respond to unforeseeable crises that may arise during this difficult period.

I look forward to your discussion, Mr. Chairman.

[The prepared statement of General Vuono follows:]

STATEMENT BY GENERAL CARL E. VUONO

CHIEF OF STAFF, UNITED STATES ARMY

Mr. Chairman and Members of the Committee:

It is a privilege for me to appear before your committee to report on the state of the United States Army and to explain the Army's priorities for Fiscal Year 1991 and beyond. The Army has developed a prudent plan, consistent with the evolving threat, to fulfill its role in U.S. national security strategy in the years ahead. Today's Army is trained and ready. It must remain trained and ready throughout our transition to the smaller, capable force that our nation will need in the future. Our program is designed to guide us into the 21st Century while maintaining a force of the highest possible quality. The Fiscal Year 1991 budget is an integral part of our plan.

The Army Today

To provide you a reference point as you consider the first budget in this new decade, I want to summarize the extensive transformation that the Army has undergone over the past ten years, and to explain how this has prepared us for the years ahead. I know that little of what I am going to relate to you would have been possible without the assistance of the Congress and the support of the American people. The Army is particularly appreciative of the support it has received from members of this committee.

Ten years ago, the United States Army was undermanned, lacked modern equipment and a sufficient sustaining base, and had limited realistic training opportunities. Enlistment and retention data were disappointing, soldier misconduct was unacceptably high, and our soldiers and their families were sometimes forced to live and work under less than satisfactory conditions.

Together, we succeeded in rebuilding this force into a powerful professional Army whose universally accepted capability brought our foes to the negotiating table and pride in their armed forces back to the American people. Let me share with you briefly the magnitude of the improvements that have produced the highest quality Army in our peacetime history.

The success of our recruiting, retention, and quality of life programs enabled the Army to attract and to retain extremely high quality soldiers and civilians throughout the active and reserve components. This led to a substantial improvement in warfighting capability and operating efficiency. In 1980, only 54% of the Army's volunteers were high school graduates, and 52% tested in Category IV (the lowest test category the Army may recruit). Today the Army is recruiting over 90% high school graduates, and the number of new recruits in Category IV is less than 4%.

We also made strides in improving the quality of life of our soldiers and their families, a key factor in retaining these quality soldiers. Since 1980, we modernized and/or expanded 13 hospitals, and we opened 65 medical and dental clinics, 67 child development centers, 19 chapels and religious education facilities, and 64 physical fitness centers. We built or leased over 24,000 sets of family quarters and added almost 100,000 barracks spaces for our single soldiers. We also instituted the Army Communities of Excellence (ACOE) program to assist in building pride in Army communities, to enhance living and working conditions, and to greatly improve the services we provide our soldiers, civilians, and family members worldwide.

The impact on retention has been significant. Soldiers eligible to reenlist for the first time are doing so at a rate 15% higher than our current objectives. Enlistment rates of mid-career soldiers are up almost 40% since 1981, and career soldier enlistments have increased 14% from an already substantial 101% of the objective. We can all be proud of the advances that we have made in caring for our professional, volunteer force.

We also made significant improvements in force modernization. We put into service the world's first night and all-weather capable attack helicopter, fielding over 600 Apaches. We upgraded the utility helicopter fleet with over 1000 Blackhawks. We significantly increased our close combat capability, fielding over 6,000 Abrams-series tanks, 4600 Bradley fighting vehicles and over 300 Multiple Launch Rocket Systems (MLRS) in active and reserve component units. Our combat vehicle fleet is unmatched for quality around the world. We replaced a large portion of our aging truck and jeep fleets with modern trucks, trailers and utility vehicles. The reserve components (RC) particularly benefitted from this influx of modern equipment. Indeed, since 1986, the lack of qualified

personnel has replaced equipment shortages as the primary RC readiness obstacle.

The Army improved its ability to sustain training and build the stocks required to support war plans. POMCUS stocks have doubled since 1980. Theater reserves of ammunition, spares and major end-items increased appreciably, and the sustainment base was modernized. These advances substantially increased our ability to effectively support the warfighting needs of the CINCs and the peacetime training of our forces.

Quality people with modern equipment, while essential, do not alone yield increased warfighting capability. Tough, realistic training is the key to combat readiness. Since 1980, the readiness of the Army's active divisions has steadily improved. Today all 18 active divisions are combat ready. Reserve component units have shown similar improvements, with our National Guard currently showing a 21% increase in units reporting combat ready status since 1980. The number of USAR units reporting combat ready status has similarly shown a 26% increase over the same period. This significant progress was due in large part to the rigorous training program for both active and reserve components. Reserve component participation in "Overseas Deployment for Training" increased fivefold, and all components participate in training at the Combat Training Centers (CTCs) — the National Training Center in California, the Joint Readiness Training Center in Arkansas, and the Combat Maneuver Training Center in West Germany. These training centers provide our soldiers with the most realistic and demanding training in the world. This training is complemented by the Battle Command Training Program that provides simulated, state of the art warfighting exercises for division and corps commanders and their staffs. These and other leader development programs for soldiers and civilians at all levels have greatly contributed to increased Army effectiveness.

Our warfighting capabilities have also been improved by redesigning our forces to exploit U.S. advantages in new weapons systems and to keep us aligned with changes in the international environment. Army heavy units have been reconfigured to a more functional design and three new light infantry divisions, the 10th, the 6th and the 29th (ARNG), were activated without any increase in the active component end strength. Army Special Operations Forces (SOF), over 70% of CINCSOC's forces, also grew in size and quality.

In all, given our enormous success in attracting and retaining quality people, and the improvements in force modernization, sustainment, training and force structure, we increased the combat capability of the Army by some 90% over the past decade. I sincerely appreciate your support throughout this transformation.

While these improvements have taken the full decade, an Army can deteriorate quickly. Rebuilding an effective force takes time and money; it takes constant effort to maintain this force at peak efficiency. Recognizing this, the Army has structured its Fiscal Year 1991 Budget to preserve the essential qualities of its current force as we begin the transition to an uncertain but hopeful future. Over the past decade, the Army has undergone an extensive transformation that has prepared it well for the challenges ahead. I solicit your support in ensuring that precipitous reductions to the defense budget do not result in the wasteful elimination of these hard-won capabilities.

Demonstrated Capability

Today's Army is trained and ready as never before in our 200 year history. In my view the participation of Army forces in Operation Just Cause demonstrated that this statement is a reality unambiguously proven in battle.

As a number of you have visited Panama since the termination of the fighting, I won't discuss the details of the operation. Let me just highlight a few of the salient points. First, it was very clear early in the planning process that the keys to success would be surprise, speed and the ability to simultaneously overwhelm multiple key points. If we were to achieve the President's objectives and minimize the loss of life and damage to property on both sides, we had to attack with overwhelming force, eliminate organized pro-Noriega resistance, and seize critical objectives throughout the country — all at the same time. This required that we conduct simultaneous ground and parachute assaults with forces based both in the United States and forward-deployed in Panama. Operation Just Cause was an exemplary demonstration of the rapid deployment and employment of a contingency force to reinforce a forward-deployed force.

Consider for a moment the magnitude of the challenge. Our CONUS (continental United States) forces were alerted, prepared and

loaded within a matter of a few hours. Then they had to fly over distances of 2000-3000 miles from a number of installations and launch their airborne and ground assaults — without rest — in the middle of the night in a strange country. The attack began at about 0100 on 20 December, precisely on schedule. Within 12 hours, our soldiers had liberated an entire nation from a brutal dictatorship. Following the combat operations, many of the same forces spent the next several weeks in stability operations and in assisting the democratic Panamanian government to restore order to the streets, to provide humanitarian assistance, and to rebuild its national infrastructure. These soldiers went from Christmas shopping to combat in less that 60 hours, and from combat operations to nation building support in not much more than that.

It is clear from Just Cause that the services and the JCS have made significant strides in planning and executing joint operations. This was one of the most complex military operations that the United States has conducted. It was also one of the most successful in our history. In my view, there is not another military force in the world that could have accomplished Operation Just Cause in the manner that the United States armed forces did.

We must be cautious, however, in drawing proper lessons from this operation. Some have already proclaimed it as the prototype for contingencies of the future. As important as it is, Just Cause represents but one type of contingency in which the United States may find itself. It is a single point along the operational continuum that runs from peacetime competition to a major war. The competence and discipline all units in the joint task force demonstrated in Panama are essential to deterrence and defense in Europe, in Asia, in the Middle East — anywhere our vital interests may be threatened. Moreover, we must increasingly be prepared to execute these missions without the significant forward-deployed elements that played a key role in our success in Panama.

The people of America have an Army of which they can be justifiably proud. This success did not come easily. It is the result of a decade of hard work, sacrifice and adequate resources. We should keep that in mind as we begin shaping the Army for the future.

Shaping the Force for the Future

In the years ahead, the United States will face unprecedented challenges, risks, and opportunities in an increasingly complex, volatile, and unpredictable world. This rapidly changing geopolitical environment will place different and far-reaching demands on the U.S. military, particularly on its conventional forces. We must remember that change does not necessarily bring peace and security. In fact, the dissolution of great nations has typically been accompanied by instability and violence. Clearly, the events in the Soviet Union and Eastern Europe are historic and offer significant opportunities to lower the level of superpower confrontation that has occupied the world for the past 40 years. However, the risks associated with assuming too quickly that positive change will continue without temporary setbacks or even reversals are substantial. We must carefully and realistically assess the dramatic political developments in the Warsaw Pact and elsewhere.

— The Threat

The challenge for the Army in this era of change will be to prepare for the future without losing sight of both the present opportunities and the inherent, yet uncertain risks of evolving security challenges around the world. For the near-term, Soviet and Soviet-supported military action in Europe and Asia will remain a demanding near-term challenge for the United States and its allies. Therefore, deterrence and regional stability will continue to require forward-deployed U.S. forces. At the same time, new conflicts in the developing world and more sophisticated versions of existing threats to our security are likely to arise. As the underlying causes of these conflicts exist within the developing nations themselves, they will not necessarily diminish even if Soviet international behavior continues to moderate.

The expansion of military power in the developing world will present new challenges to the United States. Libya, for example, has more main battle tanks than France or the United Kingdom, and several countries — Syria, India, North Korea and Iraq — have more main battle tanks than France and the United Kingdom combined. Indeed, as more developing countries gain significant military capabilities, they may resort more readily to force in settling local disputes. These conflicts pose clear threats to regional U.S. security interests. Moreover, the precise time, location and gravity

of these occurrences are largely unpredictable.

International drug trafficking, terrorism, insurgency, and subversion of legitimate democratic regimes will also continue to pose serious threats to U.S. interests. These low intensity conflicts can undermine important allies and other friendly nations, impede the development of democratic institutions, and hamper essential U.S. economic and military ties. The dangers of low intensity conflict, and particularly of terrorism, are magnified by the increasing worldwide availability of sophisticated explosives and weapons. Precision-guided munitions are becoming available through illegal arms markets and from states supporting international terrorist organizations. Terrorist use of the ultimate weapons of mass destruction — chemical, biological, and nuclear arms — is not inconceivable. Clearly, low intensity conflict is the security challenge most likely to demand a short-notice U.S. military response in the future.

— The Army's Role in National Security Strategy

Given this evolving threat, the basic elements of U.S. post-World War II strategy will be likely to continue to guide the United States for some time. Because of its geographic and political position in the world, the United States will continue to rely on a coalition strategy, working in cooperation with allies and other friendly nations to protect mutual interests. Consequently, forward deployment of combat ready ground forces in places where U.S. interests require them will remain a key mission for the Army. The scope of this mission, however, may be reduced in the near future as a result of improved security and new arms control agreements. We must ensure, in the meantime, that deterrence, stability, and ongoing arms control negotiations are not undermined by premature or excessive reductions of forces or capabilities.

Other enduring Army roles will be those of maintaining contingency and reinforcing forces in CONUS. The contingency forces must have a full range of military capabilities. They furnish our nation with flexible options needed to fashion appropriate responses to multiple and varied challenges to U.S. security interests in trouble spots around the world. Forces in CONUS must also remain ready to reinforce forward-deployed and previously committed contingency forces rapidly, backing them, if required, by the full

mobilization of the military and industrial potential of the United States.

Support to allies and other friends around the world, in the form of peacekeeping operations, security assistance, and nation-building activities, has been another historical Army role. Recently, this mission has acquired new meaning in view of the challenges to, and opportunities for, democracy in the developing world. The Army has also continued to support civil authorities, including disaster relief and emergency assistance; and it has received new missions in the war on drugs.

Considering this array of challenges, the world of the future will not be any simpler nor necessarily any safer than it is today. Indeed, as we move into the 1990s, we will live in a security environment that is demanding, diverse and dangerous. These challenges will become even more difficult as they will have to be met in an era of scarce defense resources.

— **The Army's Plan**

Some of the recent trends in the international environment have been apparent for some time, others have materialized unexpectedly. In 1988 the Army refocused its planning processes to gain the initiative in adapting to the evolving global security situation by developing a strategic concept for the Army of the future. This concept attempted to minimize the risk to key national interests and to maintain flexible options for the nation in responding to changes in threats and challenges to national interests. It has provided the framework within which the Army has continued to evaluate the impact of strategic, threat, and resource developments on its programs. When faced with the fact of sustained real resource reductions, at least through the mid-term, the Army effectively used this framework in the difficult process of posturing itself for a diverse and uncertain future.

In evaluating the potential for a significantly reduced Soviet threat over the mid-term and declining resources over the same period, three conclusions became clear to us:

— first, the Army could not at the same time man, train and equip its current total Army structure of five corps, 28 divisions, and the related support infrastructure, while maintaining the

indispensable quality and readiness of the force;

— second, to reshape the force to counter the rapidly changing threat in a climate of declining resources, while maintaining a full range of capabilities in support of the national military strategy would require a clear vision of the mid-term force (size and capabilities) and a disciplined adherence to valid priorities;

— and third, that during any reshaping of the force, the Army had to retain the capability to expand the force if the international situation changed radically.

The Army developed the mid-term force objectives based on historical analysis of previous large Army restructurings, a careful assessment of the evolving threat, and a view toward the capabilities that the Army would require in 1995. Past examples of chaotic demobilizations following World War II, Korea and Vietnam indicated that the capabilities of the force declined markedly when the Army eliminated large numbers of soldiers from its ranks. We found to the detriment of our nation that, as a result of these lost capabilities, Army forces suffered substantial and avoidable losses when committed to unanticipated combat after a rapid demobilization. We were also very aware that the requirement to build down and restructure today's professional, volunteer force would differ significantly from these past demobilizations of largely conscript armies.

Threat analyses indicated that while there was cause for cautious optimism with regard to the future direction of the Soviet and Warsaw Pact threats, other threats were becoming more likely and increasingly sophisticated. Finally, an analysis of the capabilities the Army would likely need to fulfill its strategic roles in 1995 concluded that, while its fundamental roles would not change over the mid-term, there was potential for change in the way these roles might have to be exercised. For example, given the continuation of the positive developments in the Soviet Union and Eastern Europe and the implementation of a CFE agreement, it will be possible to reduce forward-deployed forces. Further, increased warning time that may result from reductions in Soviet forces West of the Urals can lead to changes in reinforcement criteria for CONUS-based forces. Our analysis also concluded that turmoil in the developing world would likely lead to an increased role for the Army in contingency operations and in civil support operations — disaster

relief, interdiction of illicit drugs, security assistance, nation building assistance and other support to civil authorities.

We concluded that the Army of 1995 must be a smaller, but highly capable force; forward-deployed in sufficient strength to provide a credible deterrent and to demonstrate unambiguous U.S. commitment and resolve to its allies; globally oriented; and clearly able to execute worldwide contingency operations. It must have an appropriate mix of forces, be adequately modernized and fully trained, and be ready to respond on short-notice to challenges across the operational continuum. Achieving this objective within existing resource constraints necessitated that we reduce the size of the force and accept some risk in equipping the force to protect the quality and readiness which are essential for today's and tomorrow's Army.

The Army's current plan envisions the force of the mid-1990s to be structured with four corps of 23 divisions. This structure, along with the force structures of the other services, will be reviewed by OSD and JCS during the FY 92-97 Summer program review. (We are also participating in the Total Force Policy study group to ensure we maintain the most combat effective, affordable total force mix for the future.) Attaining our desired posture while maintaining the quality of the force will require:

— reducing the active force structure and overseas deployments (given appropriate international agreements);

— refocusing all available RC resources to improve their quality and readiness;

— placing greater emphasis on the contingency capabilities of the U.S.-based force;

— and focusing our modernization efforts to accept some near-term risk while continuing the research and development essential for the future.

To succeed in the evolving international environment, we concluded that the future force would have to be focused on three fundamental qualities. Tomorrow's Army must be versatile, deployable, and lethal.

— A Versatile Force

The Army must be able to counter a wide array of potential and unpredictable threats with a relatively small force. We cannot afford to maintain forces uniquely specialized for every conceivable geographic area and type of combat. Therefore, a highly capable, versatile Army will be the most effective solution to worldwide requirements for ground forces. The ability to tailor force packages for specific missions without delays for retraining or mobilization will be crucial. Versatility will require the right proportions of active and reserve components, the correct mix of forces (light, heavy, and special operations), adequate sustainment stocks, and, above all, high quality in all aspects of the force.

Versatility also demands intensive training and frequent exercises. Training programs and worldwide deployment exercises will have to demonstrate the ability to tailor force elements, to deploy them within anticipated contingency warning times, and to employ and sustain them as necessary to assure success. The Army must therefore maintain, and possibly expand, today's active force capabilities dedicated to immediate contingency response. The U.S. Army Reserve (USAR) and Army National Guard (ARNG) must continue to maintain ready and rapidly mobilizable combat and support units.

As we get smaller in numbers, the quality of our people — soldiers and civilians — more than any other characteristic, will determine the versatility of the Army. With a volunteer force in a competitive labor market, the Army must continue to provide adequate incentives to attract and retain the highest caliber men and women. This means that we will have to provide not only adequate compensation, but also a living and working environment that meets the standards of American society.

— A Deployable Force

The nature of the U.S. interests around the world and its coalition-based strategy will require that U.S. forces be globally deployable, often with little or no warning, from the United States or from forward bases. Current trends in the international security environment make it abundantly clear that rapid deployment will become even more important in the future.

Forward-deployed ground forces will continue to be essential although their specific numbers will change to reflect contemporary

circumstances. The locations of Army bases abroad, moreover, will likely be limited to those areas where deterrence and regional stability cannot otherwise be assured.

In the future, the United States will also have to maintain an unquestionable ability to conduct an opposed entry into combat in defense of vital interests anywhere. In many contingencies, a forced entry will only be possible, or will best be achieved, by simultaneous airborne assault on multiple targets. Army airborne and Ranger forces have unique capabilities for performing this function. They will remain key elements in the Army of the future.

Even the most deployable and combat-ready land force, however, cannot be employed without adequate strategic lift. The United States cannot afford to risk the effectiveness and credibility of its overall defense strategy by failing to develop and field adequate worldwide lift assets. Airlift and sealift assets currently available or approved for acquisition are inadequate. This deficiency will have to be addressed in the years ahead. Of particular importance will be the further development of sufficient sealift capabilities to support contingency requirements, and the rapid acquisition of a transport aircraft with strategic range and undeveloped landing strip capability.

— A Lethal Force

Lethality is the assured capability to defeat an opponent, winning as quickly as possible to preserve America's most valued asset — the lives of its soldiers. Assuring the lethality of Army forces will demand a disciplined, continuous modernization effort. This will mean maintaining the capability to counter the heavy armored forces of the Soviet Union and an increasing number of potential adversaries, while at the same time fielding capabilities that can defeat other threats around the world.

For the 1990s and beyond, Army modernization must capitalize on U.S. advantages and strengths — particularly the qualities of its soldiers, leaders, and technology — and exploit vulnerabilities and weaknesses in potential adversaries. Future budgets will be tight, so the Army must assign appropriate priorities and levels of effort to all aspects of its modernization if it is to field a competitive force in the future.

The Army believes it can best use the resources it is given by investing in its technology base to identify promising new technologies, while avoiding mortgaging its future for useful but noncritical near-term capabilities. The Army may, therefore, need to forego some near- and mid-term modernization options while it protects these long-term modernization efforts. The greatest challenge in this area lies in selecting those key technologies that have the greatest potential to increase warfighting capability for each dollar spent. This strategy will permit the Army of the 1990s to reflect significant increases in battlefield effectiveness as a result of the application of advanced technologies. I cite as examples of this strategy our decisions to terminate AHIP, Apache and Abrams production, and to focus our limited resources on the development of the next generation of helicopter and armored systems.

The lethality of the Army of the future will be determined, above all else, by the actual combat readiness of the force. Training will continue to be the cornerstone of Army readiness. Combat Training Centers will remain the key to developing the maximum lethality of Army units. These centers not only hone combat skills, they also enable us to assess the validity of the Army's combat doctrine and to develop our officer and noncommissioned officer leaders. The Army will continue to provide tough, realistic training to the highest standards so that its soldiers, units, and leaders have the best possible chance of accomplishing their missions and minimizing casualties should they be committed to combat.

— The Imperatives

While our determination of the characteristics essential for the future force provided direction to guide some near-term programmatic decisions, the requirement to maintain a full range of capabilities as the Army reshaped itself necessitated difficult decisions and trade-offs in projecting resource allocations to support readiness, sustainment, modernization, and force structure. We are guided in these decisions by adherence to six fundamental imperatives that have shaped the development of today's Army, were validated most recently by the Panamanian operation, and that we believe must continue to guide the Army in the future.

The first of these imperatives, and the most important, can be summed up in a single word — quality. It is this characteristic that

enables the Army to fulfill its worldwide strategic roles in spite of its relatively small size. The high quality of the American soldier — a combination of intelligence, initiative, combat skill, tenacity, and physical toughness — has been a traditional source of victory in battle. The experiences of recent years have reaffirmed that quality produces the versatility needed to respond rapidly to unforeseen situations. Therefore, recruiting and retaining talented soldiers and civilians — the best the nation has to offer — must continue to be the top priority in the Army of the 1990s and beyond. Let me share with you an example of why this quality is so important.

One soldier from a Ranger battalion, after flying in a cramped C-130 for six hours, after a night combat jump, and after fighting to clear numerous buildings, burst into a room crowded with what appeared to be Panamanian Defense Force (PDF) soldiers. Even after all he had been through, even in the heat of battle, this soldier instantly assessed the situation and did not fire a shot. The room was filled with unarmed PDF trainees. Many lives were saved because of the quality and discipline of that American soldier. With disciplined men and women of this quality, there is virtually no mission today's armed forces cannot accomplish.

The second imperative focuses on maintaining a forward-looking warfighting doctrine. AirLand Battle, the Army's contemporary doctrine, provides the basic rationale for developing leaders, designing forces, determining materiel needs, and conducting training. This doctrine recognizes the need to integrate the capabilities of U.S. Army units with those of the other services and of its allies to achieve maximum combat power and effectiveness. The AirLand Battle-Future concept is currently being developed to portray how the Army will conduct operations to meet its worldwide commitments 15 years hence. It will establish the foundation for the Army's disciplined evolution to the future, ensuring the Army's preparedness for future battlefield challenges.

The third imperative is to maintain the appropriate mix of light, heavy, and special operations forces in the active and reserve components. While the present force structure does not simultaneously meet the current needs of all U.S. commands worldwide, the Army can meet the highest priority U.S. strategic requirements. This will continue to be true in the future. We will maintain in our force the capabilities to respond to a wide array of

contingencies, conflicts and crises that are by their nature full of uncertainties.

In the conduct of tough, realistic training — the fourth imperative — the U.S. Army has set a standard for armies everywhere. The investment that the Army has made in training over the past decade has produced the readiness for war that is the basis for credible deterrence and capable defense. The exercises conducted at the CTCs in California, Arkansas, and Germany, as well as recent operations around the world including Just Cause, stand as evidence of the Army's training achievements. Tough, meaningful, and fulfilling training is also a key element in encouraging the very best soldiers to stay in the ranks. Demanding training, accomplished to high standards, is a sound investment in the Army of tomorrow.

I have discussed the dramatic improvement in modernization over the past decade, particularly in the combat equipment of Army forces. The fifth imperative is to continue to modernize the Army's warfighting capability. The Abrams tank, the Bradley fighting vehicle, and the Apache helicopter are three examples of weapon systems fielded in the 1980s that have served this end. They, and other systems like them, are the products of a continuous process that reflects the Army's strategy, doctrine, technological advantages, and overarching commitment to providing its soldiers the best equipment possible. To develop needed future capabilities on time, the Army will continue to emphasize aggressive research and development in the key areas of operational concepts, unit designs, materiel, and training innovations.

An excellent example of the success of high-leverage, advanced technologies is provided by Just Cause. Capitalizing on our investment in night vision capabilities, we were able to conduct very extensive night operations. Beginning with simultaneous surprise airborne and ground assaults, the Joint Task Force immediately followed up with successive air assaults and ground follow-on operations — all before dawn — that rendered the pro-Noriega forces ineffective in the targeted areas. It is no overstatement to say that our armed forces own the night, giving our soldiers a tremendous technological edge on the future battlefields of the world.

In the final analysis, the capabilities of the Army depend not only on the quality of its soldiers and civilians, but also on the

competence of its leaders. Thus, the sixth imperative is to continue to develop our leaders and to retain them in the Army. There have been many recent initiatives in this area, to include enhancements in formal education and training, successive operational experiences, and continuous self-development opportunities. Current Army programs are designed to prepare leaders from corporals to generals and members of the Senior Executive Service for the future challenges they may face. The noncommissioned officer education system (NCOES) has been particularly successful in upgrading the tactical and technical competence of our first line leaders. Leader development yields the most important and lasting contribution we can make to shaping the Army of the future. It is also a continuous, long-term process. Missed developmental opportunities for junior officers and noncommissioned officers are extremely difficult to recapture later in their careers.

Past adherence to these six imperatives has positioned today's trained and ready Army to address the challenges of tomorrow. The Army of the 1990s and beyond will continue to be an Army that is shaped by reliance on these proven imperatives.

This vision of the future and these priorities have guided the Army through the preparation of the Fiscal Year 1991 budget and its mid-term plans. The Fiscal Year 1991 budget represents the first step in a transition from a Cold War posture primarily oriented on the Soviet threat to a versatile posture for the 1990s and beyond with a more diverse threat orientation. This change in focus, coupled with recent and projected budget reductions, has forced the Army to make some extremely difficult decisions to best serve the immediate security needs of the nation while preparing for a disparate and uncertain future. It should be clear that decisions reflected in this Budget were based on the Army's plan to shape itself into a smaller, versatile, highly trained and ready fighting force that will remain capable of meeting the requirements of the National Military Strategy in the 1990s and beyond. The Fiscal Year 1991 budget should, therefore, be viewed with the future in mind.

Concluding Statement

In closing, I want to emphasize that we are not demobilizing a draftee Army called up to serve our country in a crisis. We are reshaping a professional, volunteer force whose soldiers and civilians have served their country freely and proudly. Moreover,

this reshaping is taking place in a period of extraordinary turmoil and instability in the international environment.

We must not forget that the United States has worldwide responsibilities. The Army must, therefore, ensure it is trained and ready to respond to unforeseeable crises, or to a reversal of the positive trends in Europe, that may arise during this difficult period. We understand the demands of national security and the kind of Army our nation needs; we have a firm foundation upon which to build; and we have a comprehensive plan by which we are guiding ourselves into the 21st Century.

At the same time, resource constraints demanded that we make tough decisions that, frankly, entail some near-term risks. We decided to reduce structure and forego some modernization programs that would have added to our overall warfighting capabilities. In my judgement, accepting these near-term risks is necessary in order to devote all our available resources to ensuring the quality and readiness of the force during the transition period as well as the research and development programs that are essential for the future.

We will need your support to obtain the needed resources. We will also need your support for additional legislation to ensure we take care of the soldiers and civilians who will be leaving the force as we reduce its size.

The Fiscal Year 1991 Budget we submitted provides for the first year of the plan that will achieve a disciplined and comprehensive restructuring of the Army. Downward adjustments to either the Budget or the plan would entail either degradation of near-term quality and readiness — adding to the risks we have already taken — or foregoing capabilities we deem essential for the future, or both. We ask for your help to avoid these unfavorable outcomes. We are committed to providing you any additional information you may consider necessary to understand not only the overall plan, but also the way in which that plan is reflected in this Budget. We need your understanding of both.

Mr. Chairman, thank you for your time today and for your previous support of the Army. I will be happy to take your questions.

[The posture statement is retained in the committee file.]

Chairman NUNN. Thank you very much, General Vuono. Admiral Trost.

STATEMENT OF ADM. CARLISLE A.H. TROST, CHIEF OF NAVAL OPERATIONS, U.S. NAVY

Admiral TROST. Thank you, Mr. Chairman. Good morning.

I too would like to submit my prepared statement for the record with your concurrence.

Chairman NUNN. Without objection it will be part of the record.

Admiral TROST. What I propose to do in my oral statement is to address the five questions which your letter calling the hearing called forth.

Let me begin by noting that as we look at the Navy, or any military force for the future, our planning process, of course, takes into account our national goals, our economic and political interests around the world. And we do, on a daily basis, re-evaluate the threats to those interests, including the capability to pose a threat even when political statements appear to have minimized such a threat.

We look at current and long term problems and how we can structure our forces to best counter those threats to U.S. interests.

As we in the individual services go about our business, of course, we are looking to structure the forces within available fiscal constraints so that we can meet our part of the requirement of meeting national security goals.

In shifting to your specific questions on changes to the Navy over the next 5 years, I have to look first of all at the requirements that the Navy has to meet and see how the Navy should change to meet those requirements. In doing so, our process has identified very few things that would change the requirements for the Navy.

That said, one would say, well, clearly we need the forces we have. We know that we never built up to the force goals that would have been required had we engaged in a global conflict with the Soviet Union. We know as we look over our shoulder, not to steer by our wake, but to see what history has told us, that the force levels in existence today represent that level that has been called upon repeatedly throughout our recent history to meet the Nation's contingency requirements and to protect its interests through forward deployments.

So in looking at requirements, I would say, I see no change in the requirements. The changes that are taking place in the world today will not be driving many changes in our requirements, but they will drive the appreciation of the public about the threat, and they will drive the fiscal resources available to us in determining our abilities to counter that threat.

So in reality, I see a smaller force which hopefully can be restructured in an orderly fashion—as General Vuono has stressed—but will still be called upon to meet commitments that differ very little from those we have today.

We are able today to meet the requirements of our specified and unified commanders. Our ability to do so in the future is a little bit beyond my crystal ball at this time, because, in my view, the international situation in terms of political and economic stability, is unlikely to change markedly over the next 5 years. And the requirements will therefore change very little. But we will be meeting them with a smaller force, which means either we decide that

there are some commitments which will not be imposed, and therefore fulfilled, or we will fulfill commitments with inadequate forces, which, in turn, will put the burden on our very fine people by demanding longer periods of time at sea from them.

We do have current operational deficiencies, none of them serious in the current fiscal environment. First and foremost is a shortfall in the number of people available to us to man our supporting and training establishments. That is a fallout of prior year force structure increases which were not matched with authorization for the personnel needed to fully support that force. We have nonetheless struck a good balance, we think, in manning all of our activities to ensure the readiness of our forces.

We face today—and have for a number of years—a shortfall in our surface combatant level. That was exacerbated by the early retirement of 16 frigates in fiscal year 1989 and the continuing earlier than planned retirement of a number of our guided missile destroyers before the replacement ships come on the line. That would normally fall well within the realm of an acceptable calculated risk, except that today we also face increased demands on our surface combatants in meeting the Navy's portion of the role to enhance our drug interdiction efforts. That means that we are demanding more of our people, more steaming time, in what would otherwise be non-deployed stand-down period.

We all face a lesser sustainability level than we would like in terms of wartime reserves and ammunition. But again, those levels are driven by fiscal reality.

If I looked at how the amended budget request and the Five Year Defense Plan are to correct those deficiencies, I would have to tell you that in a declining resource environment, those deficiencies will not be corrected. We will simply have to do our best to manage our forces and our people to meet the challenge with less at hand.

When I look to the long term and the changes that might be necessary for the future, even beyond the period of the 5 years covered by the next defense plan, I really see very little change in trends in the international security environment. I am hopeful that there will be greater stability as a result of the changes taking place in the Soviet Union right now. And I refer to greater stability in the sense that the Soviet Union would pose a far lesser threat to world peace.

Having said that it appears that whenever we put out a brush fire in some area of the world, an area of political and economic interest to us, something pops up somewhere else. And with a burgeoning population and continued economic problems in many parts of the world, I expect that political stability around the world will continue to pose a threat to our economic and political interests and to those of our friends and allies.

What I see for the future, then, is very little change in the requirements. I do see a continuing need for naval forces that have flexibility and mobility, many of which will be forward-deployed in carrying out our commitments around the world.

I would like to conclude by stressing personnel, as General Vuono has done so ably. Our key to today's readiness and today's quality force is our people. We owe them a good quality of life and proper support.

In taking care of our force, we have focused on minimizing the instability in their lives and enhancing quality of life, providing strong support for them at every opportunity. We therefore urge, all of us, that any steps taken to restructure our forces take into account the fact that we are dealing with real people.

And while I agree totally with Senator Warner's philosophy about structuring so that we can recover, if we create a lot of ill-will among people now in the services by driving them out or by treating them less adequately than they deserve, they are not going to be around. Nor are their relatives going to be all that willing to hold up their hands and say, I will try that outfit, if we create instability in our personnel accounts.

I think we have been asked in a number of hearings now to detail the impact of a failure to reprogram in 1990 military personnel accounts to give us the stability necessary to properly restructure our forces downward. Absent that kind of reprogramming, I do not think I could foresee an impact on readiness much less devastating than was previously done to us at Pearl Harbor.

It would simply drive out the people who are the key to our readiness and devastate the remaining force.

Thank you.

[The prepared statement of Admiral Trost follows:]

A REPORT BY
ADMIRAL C.A.H. TROST
CHIEF OF NAVAL OPERATIONS
on the Posture and Fiscal Year 1991 Budget
of the U.S. Navy

THE STRATEGIC PICTURE -- CHANGE AND CONTINUITY

The world is experiencing breathtaking changes. Power relationships that seemed firm yesterday are changed today. We face a new strategic era and a new strategic environment. To a great extent, geopolitical prospects in Europe are ones that we have long sought -- democratization of Eastern Europe and a reduced Soviet presence on NATO's doorstep.

Perhaps we are at the end of the Cold War, however, this does not mean the end of political, ideological, diplomatic, economic, technological or even military rivalry among nations. It does not mean the end of competitiveness. It does not mean the end of the struggle for power and influence. It may well mean increased instability, unpredictability and violence.

While it is true that the Soviet Union remains a formidable military power, it is also true that it is preoccupied with internal reform and appears genuinely committed to a peaceful and friendly relationship with the United States. As the Soviet Union struggles to improve its faltering economy and quality of life for its citizens, the willingness and desire of its leaders to engage in aggressive destabilizing foreign affairs may wane.

It is important to remember that the "Cold" War has been waged on ideological and economic grounds, underwritten by military power. There is no question that, on the basis of political and economic philosophies, democracy and the free market system have

triumphed.

The military facet of this competition has not disappeared, however. Besides their own substantial military capabilities, it is clear that the Soviets remain interested in playing a major role in the Third World, but their ability to participate in any meaningful way is limited to their ability to provide one kind of dependable aid -- weapons and military equipment. Whatever course Mr. Gorbachev's reforms take, even should they result in a truly democratic and pluralistic society, the Soviet Union, because of her geostrategic dominance of the Eurasian land mass and latent military power, will remain a power with which we must reckon.

This point was especially brought home to me during my visit to the Soviet Union in October 1989. One cannot visit that country and fail to come away with a high regard for the resilience of its people in the face of enormous difficulties. What the visitor also develops is a healthy respect for the immensity of the Soviet Union and the sheer will of the Soviet Union to retain its position as a global superpower.

It is worthwhile to note that the geostrategic differences between the Soviet Union and United States have led to strategic disingenuousness on the part of the Soviets. They claim our forward naval deployments are offensive and fail to account for their new defensive doctrine. This public argument neatly fails to recognize that many of our most vital interests are across oceans which surround Eurasia and the Soviet Union. Our European allies are overseas, our key trading partners in Asia are overseas and major sources of oil in Alaska and the Middle East are overseas. Our important Asian allies are overseas. We can not sacrifice either the security or interests of friends who share the Eurasian landmass with the Soviets in order to make the Soviets feel "more secure," particularly since it is clear that the West does not possess the military capability to pose a credible conventional threat to the Soviet homeland.

This is geographic and strategic reality. Maritime forces as well as overseas bases that support land based air forces (both Navy and Air Force) are required to defend interests. These bases, some of which we have maintained since the 19th century, are on the periphery of the Soviet Union because that is where our friends and interests reside -- not because we intend to attack the Soviet Union. Were we to withdraw from this posture, we would destabilize much of the world, leaving friends and allies to fend for themselves.

THE SOVIET NAVY -- THE CAPABILITY WE CAN NOT IGNORE

The Soviet Navy is modernizing and improving its capabilities. They continue with a robust aircraft carrier construction program. The TBILISI is conducting sea trials and has conducted flight operations with three different models of front line Soviet aircraft. Construction is ongoing on a second TBILISI class carrier, RIGA, as well as the lead ship of a larger follow-on carrier, ULYANOVSK. Both of these ships are scheduled for commissioning this decade. Their 1989 submarine construction rate matched their 1988 rate -- nine ships -- and double United States' production. I do not want to dwell simply on numbers, however. To me, the most interesting and potentially troublesome facet of current Soviet naval developments is that they have adopted our philosophy and are willing to sacrifice quantity in order to emphasize individual unit capability. My greatest concern is in the qualitative improvements being made. I have been aboard some of their newest classes of warships and can assure you that the Soviets are clearly building a better Navy.

Their competitive strategy is clear. It is to improve the quality of their fleet, incorporating new systems; while negotiating for reductions in U.S. naval capability. They are maintaining an extensive and impressive R&D program, while living within fiscal constraints by cutting operating costs, scrapping

obsolete units and, where necessary, slowing introduction of new systems.

LOW INTENSITY CONFLICT -- THE MOST LIKELY THREAT

While we intend to keep a weather eye on Soviet naval developments, it is clear that the most probable threat will continue to be in the developing world. A few years ago the Navy coined the term "violent peace" to describe the circumstances in which naval forces have operated since the end of the Korean conflict. Our country, while officially at peace, was continuously confronted with situations such as terrorism, regional conflict, threats to U.S. citizens -- that required military responses. More often than not, these responses involved naval forces. The waning of the Cold War has not changed this reality. Third World problems that have vexed national decision-makers since 1945 remain. What has happened, however, is a refocusing of the national defense debate from the receding Soviet threat to the problems associated with keeping stability in an era of violent peace.

There are many regions of the world where the probability for conflict is high. Rising populations, nationalist movements, terrorism, religious zealotry and struggles for control of crucial resources all fuel regional wars and antagonisms.

There was a time when conflict in developing countries conjured a vision of simple, low-tech warfare that would not require sophisticated weapons. That time has passed. Today, around the globe, developing countries are armed with "First World" weapons. Proliferation of chemical weapons, growing access to nuclear weapons capability, and proliferation of cruise and ballistic missiles, submarines and high-performance tactical aircraft mean that virtually any nation or group of terrorists can bring capable and deadly weapons to bear.

Because naval forces have been continuously involved in responding to crises, I am particularly concerned about easily operated, high-technology weapons proliferation throughout the world. This adds a most difficult and dangerous dimension to the missions of peacekeeping and conflict containment. As countries become more independent from traditional power centers and as the world becomes more multipolar, commercial relationships with a wide variety of arms suppliers will ensure a world armed with an assortment of sophisticated and lethal weapons, specifically (excluding the United States and the Soviet Union):

- 102 countries worldwide now have cruise missiles; by the year 2000 at least 15 countries will be producing their own ballistic missiles

- 41 countries worldwide now have naval mining capability

- 14 countries worldwide now have chemical weapons; 11 suspected developing

- 3 countries worldwide now have bacteriological weapons; 15 suspected developing

- 40 countries worldwide now are arms producers

- 41 countries worldwide now have diesel attack submarines; in the third world alone, there are nearly 250 diesel submarines.

These factors, combined with a history of violent relations and mistrust between such countries as India and Pakistan, Egypt and Libya, Syria and Israel, North and South Korea, Iran and Iraq, Cambodia and Vietnam, make the prospects for continued violence high. The nuclear race on the South Asian subcontinent is particularly worrisome. Regional conflicts will be increasingly deadly because of the availability of weapons of mass destruction and the demonstrated willingness of at least some belligerents to violate long standing taboos against their

use. Space launch vehicles, for example, under development in Iraq, Brazil, India, Pakistan, Taiwan, Israel, Japan and Argentina, can easily be transformed into long-range land-attack missiles. High technology weapons proliferation is a serious threat that requires defenses of equal or better sophistication and capability.

The fundamental defense issue for the United States in the foreseeable future is to maintain a military posture that protects our interests and those of our allies from a diversity of regional threats, while also maintaining a credible deterrent posture vis-a-vis the Soviet Union. It is clear that we must have the capability to respond in a flexible and calibrated manner. As a nation we should never be forced to act hesitantly or rashly because of a limitation of means. Where the potential for interruption of necessary resources occurs, or where the safety of American citizens is involved, or when regional stability is dependent on an American presence, maritime forces will be needed.

The inherently deployable Navy/Marine Corps team is of unique value to the nation. The mobility, staying power, long reach and ability of naval forces to influence events ashore, because of sea-based air-power, cruise missiles and amphibious assault capability, contribute to East-West deterrence while simultaneously being the most diverse and flexible force for presence and regional response.

RESPONDING TO CRISES -- THE VALUE OF SEA-BASED FORCES

It is not a coincidence that naval forces have been the most acceptable form of military presence and response in crisis situations. They convey calculated ambiguity and calibrated response. At the same time, their presence on the high seas does not irrevocably commit the United States to a given course of action. They are deployable, can remain indefinitely in the region, off shore, over the horizon, unseen but not forgotten,

ready to operate at varying orders of magnitude. They complicate the calculations of parties opposing our interests. Naval forces have provided this kind of effective crisis response throughout the nation's history, and most particularly since 1945. We are well practiced veterans of this type of employment.

During the 1980s, naval forces were called upon to act in our nation's behest no fewer than fifty times. It is illuminating to list some representative occasions from the past few years, as a reminder of how commonplace it has become for naval forces to be the leading edge of national response when our interests are threatened overseas. Some representative examples include:

March 1986: In response to Libyan SA-5 missile attacks on U.S. aircraft, USS AMERICA and USS CORAL SEA carrier battle groups' aircraft destroyed two Libyan missile patrol boats.

April 1986: After the bombing of the La Belle discotheque, aircraft from USS CORAL SEA and USS AMERICA carrier battle groups, with Air Force FB-111s from the UK, conducted strike operations against targets in Libya.

January 1987: USS KITTY HAWK carrier battle group transiting to the Mediterranean was detained in the Northern Arabian Sea in response to the Iranian installation of Silkworm missiles in the vicinity of the Straits of Hormuz.

July 1987: USS CONSTELLATION carrier battle group was ordered to the North Arabian Sea to support the escort of reflagged tankers transiting the Arabian Gulf during the Iran-Iraq War.

September 1987: The frigate USS JARRETT captured an Iranian vessel laying mines in the Arabian Gulf.

October 1987: USS RANGER and USS MISSOURI battle group ships, in concert with U.S. Navy units of the Middle East Force, destroyed three Iranian oil drilling platforms.

January 1988: Because of internal political instability and a military coup, Amphibious Ready Group/Marine Expeditionary Unit was positioned off the coast of Haiti, prepared to evacuate personnel/refugees.

April 1988: USS ENTERPRISE carrier battle group surface combatants and aircraft, in concert with U.S. Navy units of the Middle East Force, destroyed Iranian naval units in retaliation for the mining of USS SAMUEL B. ROBERTS.

September 1988: To guarantee stability, USS NIMITZ and USS MIDWAY carrier battle groups were on station off Korea during the Olympic Games.

February 1989: Amphibious Ready Group/Marine Expeditionary Unit moved to the Eastern Mediterranean and Lebanon following a missile attack on the U.S. Ambassador's residence.

June 1989: Fast sealift ships transported Army personnel and equipment to the Panama Canal in response to the unstable political situation and assault on opposition party candidates.

August 1989: USS CORAL SEA, and USS IOWA battle groups were stationed off Lebanon; USS AMERICA returned to North Arabian Sea; USS RANGER and USS FORRESTAL prepared for contingency operations, all in response to the murder of Lieutenant Colonel Higgins and threats to other hostages.

AIR SUPERIORITY -- THE CRUCIAL INGREDIENT

Positioned off shore, often out of sight, the aircraft carrier battle group is capable of providing the right amount of force at

the proper time because the carrier brings tactical air power to the scene. It is the embarked air wing, a self-contained package of all required aircraft types, easily tailored to suit the particular situation, that makes the carrier especially valuable to decision makers. It provides them with a credible, well-trained and ready force with which to influence events, a force which can be sustained indefinitely on station.

With 80-86 embarked aircraft, the carrier is able to exercise caution and restraint when necessary or mount a major anti-ground or anti-sea strike if called upon. In peacetime, possessing a task-tailored mix of air-to-air fighter, ground-attack, early warning, electronic counter-measures and anti-submarine aircraft, naval tactical air power provides quick response, independence, flexibility, escalation control, and continual, long-range on-station surveillance while in international waters.

THE U.S. NAVY IN 1989

The August 1989 marshalling of naval forces off Lebanon is only the most recent example of the often repeated story that, when a crisis breaks out, the first question is "Where are the carriers and when can they be on the scene?" The operation illustrates the flexibility and depth of capability provided to our national decision-makers by naval forces. Four carrier battle groups and one battleship were on call. USS CORAL SEA and USS IOWA battle groups were both on-station in the Mediterranean and ready for whatever the President deemed was the appropriate and desirable action. Meanwhile, in the Indian ocean, USS AMERICA was ordered to return to the North Arabian Sea. Enroute to California, USS RANGER was delayed and positioned for a contingency return to the North Arabian Sea; USS FORRESTAL prepared for possible contingency operations during an on-going exercise in the Caribbean.

This single operation demonstrates the ability of naval warships -- carriers, battleships, surface combatants, submarines, amphibious ships -- to move on short notice and provide a reaction force capable of responding on a wide scale. Naval forces were fully ready. Aircraft, cruise missiles, 16 inch shells from a battleship, combat ready troops, and submarine surveillance were all available. As a consequence, our decision-makers had in hand the essential tools for the development of their policies: flexibility of action, immediate availability of resources, diversity of capability, and ambiguity of intent until a decision was made. Importantly, the world and all the interested parties were aware of the marshalling of forces even while the decision process evolved. Naval forces were and are politically and strategically mobile.

In addition to these traditional missions, the Navy will play a key role in the expanding contribution by the Department of Defense in the fight against illegal drugs. Plans developed by CINCLANT AND CINCPAC involve the employment of naval forces, both active and reserve, including carrier battle groups, major amphibious ships and aircraft, operating in international waters. Their mission will be surveillance, identification and, in conjunction with law enforcement agencies and especially the United States Coast Guard, apprehension of drug traffickers.

Finally, the mobility of naval forces contributes to our ability to respond when ecological disasters occur. In the aftermath of the massive oil spill off Valdez, Alaska, the U.S. Navy provided essential logistical assistance during the cleanup effort. Amphibious ships -- for command and control and berthing of cleanup crews -- were maintained on-station for six months. Most of the oil skimmers, towboats, oil containment booms, landing craft and communications vans were provided by the Navy. Some of these same assets were recently employed to assist in the cleanup of the Huntington Beach oil spill.

This same mobility and the self-sufficient nature of naval ships make them valued sources of relief when natural disaster strikes. In September 1989, U.S. Navy ships were promptly on the scene providing electric power, fresh water and volunteer assistance at St. Croix, Puerto Rico and Charleston following Hurricane Hugo. In October 1989, naval forces again provided rescue, vital utilities, medical assistance and volunteer manpower in the aftermath of the Oakland-San Francisco Bay area earthquake.

SOME OBSERVATIONS ON RECENT NAVAL OPERATIONS

As I consider the challenges faced by the United States and by naval forces in support of our nation's goals and objectives during these last four years, several lessons and trends are noteworthy.

In the majority of contingencies naval forces were called upon to represent national interests, Western resolve, democratic principles and regional stability in areas far removed from the United States, overseas bases or traditional European locations. Moreover, many of these contingencies were not anticipated. Nonetheless, because of the forward presence of our naval forces in unstable regions we have been able to provide the President a range of policy options for virtually every contingency. This is an important consideration. It is not possible to anticipate every conceivable contingency because of the volatility throughout the world. The solution is not to create a library of contingency plans for every conceivable situation. Rather, in those regions of greatest importance to the country we should maintain forces with the widest range of military capability so that they can be immediately employed. Our forward deployed carrier battle groups and amphibious task forces provide that wide range of military capability.

Of equal significance, naval operations throughout the world have resulted in development of unprecedented coalitions of

nations with maritime interests in regions such as the Mediterranean, Western Pacific and Southwest Asia. In the Persian Gulf, thanks to United States leadership, several of our NATO allies, Saudi Arabia and Kuwait joined forces to protect maritime interests. Freedom of navigation was successfully defended when challenged by Iran.

The United States will continue to be expected to provide leadership as the principal naval power in the world. A modern, responsive, mobile, flexible and technologically advanced maritime coalition is clearly a capability that our friends and allies have found to fit the new geostrategic realities well. It is a natural and quite logical fallout of the world's increasing interdependence which is based upon the sea.

A final observation is the importance of our sea-based forces to assemble for action without depending upon bases in other nations. This inherent trait often permits the luxury of being insulated from policy vicissitudes on base and overflight rights, providing more latitude for policy development and negotiations. Naval forces help make it possible to weather shifts in political winds as well as respect the sovereign self-determination of other nations' desires without needlessly sacrificing our own vital interests. The relative autonomy of sea-going forces will continue to be an important factor in support of American and allied interests.

WHAT KIND OF NAVY DO WE NEED?

To successfully support U.S. policy, naval forces must: (1) be able to fight a war effectively, regardless of scale, (2) be able to operate jointly with our sister services and allied navies, (3) have the striking power to affect events at sea and ashore, (4) have local superiority over potential adversaries, (5) be sufficiently large in numbers and capability to permit simultaneous coverage of different crisis areas, (6) be able to respond and defend against sudden attack and (7) be able

to employ offensive electronic warfare to disrupt an opponent's effectiveness.

The ships we build today will be in the fleet for the next 30 to 40 years. Forecasting the threat environment for the year 2020 is at best an imprecise art. We can forecast, however, broad trends of that environment and build ships and aircraft such as ARLEIGH BURKE Class destroyer, the SEAWOLF Class submarine, and the A-12 all-weather attack aircraft, that are able to deal with the widest range of plausible future threats. As we look toward that future, it is clear that such a Navy must be balanced and include the following major pieces:

(1) The sea-based portion of our nation's strategic deterrent force. Measured against the criteria of ensuring our nation's deterrent flexibility and maintaining our defense options, our sea-based nuclear deterrent is the best insurance available. Our nation's dependence on this force will grow in a post-START environment. The TRIDENT missile-carrying submarine is reaching maturity at precisely the right time in our nation's history to enable us to safely weather the period of strategic and defense uncertainty that lies ahead. Providing nearly 50% of the nation's strategic warheads for only 25% of the total strategic cost, the potent and extraordinarily accurate TRIDENT/D-5 system will, for the foreseeable future, remain the most cost-effective and survivable element of the nation's strategic deterrent capability.

(2) A strong and credible capability to defeat any submarine force. The Soviets' increasingly modern, quiet and very large attack submarine force maintains the real capability to sever the umbilical cords that unite the Atlantic alliance and the industrial base of Asia with the United States. In addition, the forecast proliferation of advanced diesel submarine technology presents a significant and emerging non-Soviet global ASW threat which will require our continued commitment to ASW superiority. We must continue to place top priority on development of modern

submarines and submarine surveillance systems, as well as improved surface combatants and air ASW forces to detect, hunt and, if required, sink submarines. Detecting and killing modern, quiet submarines (nuclear or diesel) is the most difficult task in modern warfare.

(3) Carrier battle forces will remain the most useful component of our balanced Navy. Air superiority is essential to success in modern naval warfare. The availability of tactical air power and cruise missiles from surface combatants and submarines in the battlegroup will remain the most important military consideration in any form of conflict or crisis response. Tactical aircraft at sea remain the most decisive naval weapon, whether the mission is protection of our sea lanes or power projection ashore. Our Navy's ability to deploy carrier battle groups routinely with militarily useful numbers of aircraft and land attack cruise missiles is the single most important factor in its value to national decision makers, because it provides a credible means to affect events ashore. Battleship battlegroups, while not a substitute for carrier battlegroups, do provide a unique operational capability. Their 16 inch gun firepower is particularly valuable in satisfying many of the warfighting requirements presented by low intensity conflict scenarios. Similarly, submarines provide covert surveillance, intelligence collection, and insertion of special operations troops, offering a unique capability in addition to their more typical anti-surface and anti-submarine warfare missions.

(4) An amphibious assault capability that provides our Marine Corps access to virtually every area in the world in which U.S. interests can be jeopardized is another critical component of a balanced Navy. A modern amphibious capability provides the means to project land combat power from the sea in virtually all of the likely trouble spots -- which historically have been predominantly littoral nations -- around the world. Because amphibious forces are sea-based, they are readily available for

use and are unencumbered by political constraints imposed by of other nations. This broadens their value to the President as a viable contingency response force.

(5) A mine countermeasures capability in the active and reserve force that blends the quick response of airborne minesweeping forces with the staying power of surface ship minesweepers is essential. The ability to disrupt the flow of commerce with readily available low-tech, inexpensive, impersonal and easily deniable mines was a lesson of the Iran-Iraq War that has not been lost on those who would wish to intimidate, stop or otherwise interfere with the maritime flow of goods and commodities.

(6) To complete the capabilities that represent a balanced Navy, the Combat Logistics Force is essential. It is the ability to resupply our forces at sea that separates a coastal Navy from a truly "blue water" force that can remain at sea without dependence on forward bases. Logistics ships provide the autonomy from fixed bases that will be increasingly important as our overseas base structure continues to erode.

Taken together, these six capabilities (portions of which can be in the reserve forces) and the naval contribution to national special operations forces -- the SEALS -- represent elements that constitute a balanced navy essential to the maintenance of our role, position and obligations throughout the world.

Increasingly during this decade, and entering into the next century, all of these balanced forces will depend upon space-based navigation, communications and surveillance systems to carry out the full range of assigned national tasking. Because of its importance to naval operations, I have designated Space and Electronic Combat as a discrete warfare area and associated naval doctrine is being developed.

Finally, when considering what kind of maritime capability the country needs, we must address strategic sealift capability which complements our Merchant Marine to deliver warfighting equipment and combat-sustaining resupply of our Army, Air Force and Marine Units to the region of conflict in adequate time and sufficient amount. As a great power, the United States will always need to be able to project military forces overseas. Changes in Europe will increase the value of sealift. As warning time increases, as CFE negotiations reap anticipated results and as intelligence resources are enhanced, the ability to reinforce Europe from the continental United States will play a larger role in deterrence.

WHAT SIZE NAVY DO WE NEED FOR THE 1990s?

In today's environment, the size of the peacetime Navy is dictated by three criteria:

First, the need to maintain a credible naval deterrent so that no matter how perestroika finally plays out, the United States does not find itself disadvantaged by a change in regime or philosophy in the Soviet Union. This is particularly true in our ASW force structure, where a sudden shift could find a less benign Soviet Union ready to use their large and capable submarine force. Naval forces can not be easily created. You can not quickly design and construct warships; depending on complexity, they take anywhere from 5 to 8 years to build. When the President needs naval forces to respond, they must be at sea, or nearly so. They can not be resting on the building ways or in the designer's eye.

Second, a Navy that can meet peacetime national requirements for forward overseas presence, preserve regional stability and promptly respond to unanticipated or emergent crises. Based on our country's post-World War II history and the American public's desires to maintain the United States as a world power, it is obvious and certain that the President will continue to depend

upon ready aircraft carrier battle groups and Marine Corps amphibious forces, both to support our foreign policy initiatives and to defend the rights and lives of Americans abroad. As the country's premier deployable arm, maritime forces must be broadly capable and available in sufficient numbers to ensure success. National leadership must have in hand forces that permit them to explore the widest range of options in addressing threats to the peace of today's world.

Third, the peacetime Navy must be sized so that our seagoing sailors can be afforded a tolerable quality of life. This final criterion is very important because it directly affects our Navy's single most important asset -- our extremely bright, dedicated, patriotic and incredibly hard working sailors. It means having enough ships and submarines to ensure a reasonable balance between the demands of overseas deployments and operations in homewaters.

This point is often not well understood. Firm guidelines for the number of days underway (OPTEMPO), the number of days in homeport during nondeployed periods (PERSTEMPO), the length of time between overseas deployments (turnaround time) and the actual length of overseas deployment (6 months) have been established precisely so that we don't drive our sailors out of the Navy because the burden of constant family separation becomes intolerable. As it stands, on average, seagoing sailors spend six of every 18-20 months forward deployed and another several months operating at sea in homewaters conducting training exercises. In global war, when the entire Navy and country would be mobilized, long periods of separation are expected and tolerated. In peacetime, however, many sailors will simply not continue to endure unreasonable periods away from their families and friends in the United States.

This assertion is buttressed by recent history. Just ten years ago during the Iranian hostage crisis, national requirements demanded a forward deployed carrier battlegroup

presence of four to five carriers. Because there were too few deployable carriers and overseas requirements were firm, the only solution was to lengthen deployments, eventually reaching nine and then ten months. Excessive time away from their families, combined with low pay, caused sailors to vote with their feet. Valuable, experienced petty officers left the service in droves. Predictably, this hemorrhage of skilled sailors had a direct and negative impact on readiness. This unfortunate situation took about four years to turn around.

By 1986 we had rectified the damage brought about by having too few ships and too few sailors too poorly supported to meet national requirements. Today, we have recruited, trained and retained a force of qualified men and women, replacing those who left a decade ago. We are not complacent, however. We know it could happen again, particularly since we have seen a steady decline in funding so that today we have only a thin margin of sufficiency in terms of ships and resources.

What is different today is that we have sufficient carrier battlegroups to satisfy today's overseas deployments and firm overseas deployment guidelines, so we are not forced to compensate for force structure shortfalls by extending our overseas deployments.

In general the Navy we have in hand today is the force we need to maintain regional stability in areas that are important to the United States, to remain a credible deterrent, to participate effectively in the fight against illegal drugs and respond to national requirements that exist day-in and day-out. The active deployable Navy should not be permitted to dwindle beyond our planned retirements and replacement objectives.

Today's Navy is of sufficient size and capability. We remain a credible deterrent force and can satisfy peacetime requirements. In order to maintain this capability, we must continue to modernize the fleet incrementally, replacing older

carriers, surface combatants, amphibious ships, aircrafts, and submarines with the newer forces that will be the mainstay of our capability well into the next century.

THE NAVAL RESERVE FORCE -- THE PROPER BALANCE

We must continue to provide sufficient and prudent funding for our total force concept. Over recent years, we have increased the size of our Selected Reserve by nearly 100 percent, to nearly 150,000 men and women, serving in front-line ships and aircraft, including ASW frigates and P-3 aircraft. The Naval Reserve force is substantial. Perhaps more than ever in history it will be necessary for us to assess carefully the proper mix of active and reserve forces to ensure that we have the most economical and effective force needed to meet our mission requirements.

There are some people who believe that we can make significant inroads in reducing our budget by transferring a large number of personnel, ships and aircraft into the reserve force. While it is true that some savings are realized because of reduced manning levels and operating expenses, there are added costs to increasing numbers of personnel in the reserves and associated transportation costs and logistical difficulties in getting those personnel to their units. There is also the cost of constant turnovers, since reserves can only be used for a very short period of time, rarely covering the time required for an overseas or deployed operation. It is a fact that Naval Reserve Force ships are only 10% less expensive than fully active, immediately deployable, fully maintained front-line ships. Most importantly, there is a cost to be paid in the Navy's ability to: (1) meet global commitments without stretching remaining active duty forces so that the level of risk is unacceptable and (2) respond to contingency situations without violating established limitations on length of deployments, our Navy OPTEMPO and PERSTEMPO goals. Striking the right balance between these costs and their effects upon our forces has been the key factor in developing the quality total force we have today.

SAFETY

In 1989 there was a great deal of public commentary on the issue of safety. Going to sea is inherently hazardous. Latent danger is present in every aspect, during each minute, of our professional lives at sea. Because of that, safety is a paramount and constant concern for all of us in the sea services. While no accident is inevitable, statistically we know that some will happen. Each accident, injury and loss of life is taken very seriously by everyone in the Navy. Because of that, our emphasis on safety is unrelenting. In this decade we have demonstrated a continual improvement in safety. Are we satisfied? No. We continue to strive for perfection. It is worth pointing out that:

o We have set new records for aviation safety in the last two years. The number of major aviation accidents this year is nearly three times lower than it was in 1980 and 30 times lower than when I was a junior officer.

o Operations and training related major accidents have declined in each of the past five years. In FY 1984 the Navy had 125 major accidents. The number in FY 1989 was 66.

o The aircraft carrier LEXINGTON, on which a student pilot crashed in 1989, had not had a single fatality in the previous sixteen years. This is remarkable considering that this is the Navy's training carrier and every Navy and Marine Corps pilot makes his first at-sea carrier landing on that ship.

o In September 1989, we completed a four month exercise in the Pacific in conjunction with many of our allies, known as PACEX 89, which was one of the most intense operations in many years. The exercise involved over 100 ships and hundreds of airplanes and operations were conducted in every type of weather. There were no major accidents.

o Since 1955, when the first nuclear powered ship went to sea, the United States Navy has been continuously operating nuclear powered ships without a single major nuclear accident. This is a safety record unparalleled by any other nation and one about which we are neither complacent nor relenting.

Our goal continues to be to make our Navy as safe as possible. That is done through many avenues, including proper technical training, safe and modern equipment, sufficient manning, realistic operational tempo, constant education and awareness programs and sound leadership practices. Ultimately, however, good safety depends on safety conscious leadership. I can state with great confidence that leadership, at every level, is aimed at making the 1990s the safest decade yet.

ENVIRONMENTAL PROTECTION

The goals of national defense and environmental protection are compatible. The Navy is a steward for vast amounts of natural resources. The protection of these natural resources at our installations, along with the protection of our nation's air and water, are in integral part of our daily lives at sea and ashore. Although we support the concept of state and local regulation, we see a need for consistent national standards for our ships which must operate in various state waters. This past year we have continued aggressive efforts to clean up past hazardous waste sites. We initiated a total quality management approach for hazardous material requiring comprehensive evaluation of material acquisition, storage, use, recycling and disposal to minimize hazardous waste. The Navy has been a leader in federal facility environmental protection and we must continue to do so as we face the challenges of the next decade. I am committed to integrating the environmental ethic in our organization from top to bottom and ensuring that we dedicate the resources necessary for environmental compliance.

ARMS CONTROL

Over the past year, it has been asserted by a number of commentators that it is because of stonewalling on the part of the Navy that the United States has not enthusiastically embraced Soviet calls for naval arms control. It is flattering to be credited with such influence; it is also naive and just plain wrong. The reason naval arms control is not on the agenda is that when national policy makers objectively examine the issue, they find that the variety of naval arms control proposals floated by the Soviets are simply not in our national interest. We have nothing to gain and much to lose. They also find that, except for START, which includes SLBMs in the negotiations, the charters for all of the ongoing negotiations specifically exclude naval measures.

When we talk about naval arms control it is important to understand that there are, in reality, many different aspects of this overly broad term. The most prominent include:

The START negotiations, which include naval forces. From the outset our SSBN force has been included in these negotiations to reduce strategic offensive nuclear weapons. I fully support the objectives of START.

Second, our nuclear tipped TOMAHAWK sea-launched cruise missiles (TLAM-N), most commonly referred to as SLCMs, are the subject of considerable debate. These are tactical weapons that have specifically been excluded from the START negotiations. In principle, I have no objection to imposing a limit on the number of nuclear SLCMs. We must, however, be prudent with our management of this important capability. While satisfactory verification is one of my major concerns, an equally important consideration is the role that SLCMs could play in maintaining theater level deterrence.

Third, the Soviet Union has persistently advocated measures that would restrict where U.S. naval ships, operating on the high seas, could go. The basic Soviet approach is to prohibit naval forces from sailing in international waters in certain parts of the globe by creating special keep-out zones. Variously known as "nuclear free zones," "zones of peace," "ASW free zones," "stand-off zones," and "security or safe zones," these proposals have one thing in common -- they seek to put limits, in international waters, on what the U.S. and western navies may do and where they may do it.

Under the guise of arms control, these constraints are known as "confidence and security building measures" or CSBMs. The concept of CSBMs stems from concerns related to land warfare. On land the worry is that national frontiers, limited air space or terrain features such as mountains, wooded areas, tunnels, etc. prohibit observation of large troop movements. CSBMs are intended to overcome natural or man-made obstacles and make movements or large bodies or troops more open or transparent.

The desire for transparency is driven by fear of surprise invasion. Countries with neighbors having large standing armies and a history of conflict, are sensitive to the subterfuge of using exercises as an excuse to amass troops who then, instead of exercising, lunge across the frontier in a surprise invasion. The Soviets, surprised in June 1941 by Hitler, are understandably nervous about this issue, as are other European countries who have been similarly surprised.

A significant problem arises when one takes legitimate security concerns about openness and transparency on land and attempts to apply them at sea. It does not work. Unlike sovereign territory on land, the international waters of the world are the common holdings of all nations. As the term "international waters" implies, the high seas are available for all to use freely. It is the ships that ply the high seas that are sovereign territory, not the seas themselves.

In fact, if the objectives of CSBMs are openness and transparency, then the concept of freedom of the seas is the ultimate naval CSBM, because it guarantees the right of a ship or aircraft from any nation to operate freely in close proximity, with due regard to safety, to naval exercises in order to observe and monitor the progress of these exercises. Rather than building confidence, many of the measures proposed by the Soviets, by constraining freedom of the seas, will have the opposite effect.

Today, there already exist several means to ascertain the difference between large scale naval exercises and a major maritime offensive operation.

o First, in Europe, the Stockholm Agreement of 1986 requires notification for ground, amphibious, or airborne exercises with troop/vehicle participation above a certain level, and observation of exercises with a higher level of troop participation. We support and fully participate in this agreement.

o Second, the announcement of military exercises and associated ship movements in our free press gives advanced information on the commencement and cessation of virtually every major naval exercise.

o Third, the scale of a major maritime war operation dwarfs that of any peacetime exercise and would be immediately discernable to any nation with modern surveillance capabilities, particularly the Soviet Union. From the viewpoint of transparency, when one considers that in June 1944 it took over 5,000 ships, 5 amphibious assault divisions of troops and, on the first day alone, 11,000 aircraft sorties to invade the continent of Europe, it is obvious that no country or alliance has the military capability to invade the Soviet Union from the sea.

o Fourth, a modern space surveillance capability gives the Soviets the ability to monitor ongoing exercises. For years the Soviets have easily monitored our exercises with their own ships and aircraft, yet they persist in trying to limit our ability to operate or exercise in proximity to our overseas friends, allies or even our state of Alaska.

Throughout the history of the United States we have been willing to fight, and indeed have gone to war, to preserve the principle of freedom of the seas. It would be a travesty if we were to compromise on a fundamental national and democratic principle simply to satisfy a Soviet compulsion for predictability or because we feel compelled to respond to their strategically specious assertion that they feel "threatened" by a United States Navy that is growing smaller.

PRIORITIES

Amid all the political instability and strategic uncertainty we see in the world today and the ever changing political priorities in the United States, the Navy has stood fast with the same priorities throughout the 1980s -- a result of constancy of purpose and diversity and adaptability of capability.

As we look toward the future and the transition to the Navy of the 1990s, our commitment is to sail the world's most capable Navy. We will be a smaller Navy, but improved in capability through the retirement of older ships and the construction of new, necessarily more capable ships. The emphasis for the Navy of the future will be continued quality and readiness of our people, proper warfighting balance of our forces and capability to meet tomorrow's threat with the assistance of high leverage technology. My priorities remain:

First, People: Sailors and Their Families. Today, the nearly 600,000 active duty and 150,000 reserve men and women in Navy uniform, and the 300,000 civilians who support them, are very

good. They are bright, patriotic and expertly trained. In 1989 we enjoyed the highest retention and reenlistment rates in the past five years. Such success does not come without effort. It can not be sustained by broken promises, a widening pay comparability gap (currently 10.9%) between civilian and military wages, or erosion of benefits. Unhappiness with pay has moved up to the number two "dissatisfier" with Navy life since 1988 because of the increasing pay gap. We need to keep faith by maintaining continual and unrelenting focus on adequate pay and bonuses, staying true to established standards for time away from home and time out of homeport, following through with our very substantial efforts at rejuvenating the Navy medical system, and keeping our training programs vigorous and attractive.

We have developed a manpower strategy for the 1990s. If the Navy is to become smaller we have an opportunity and obligation to shape the force in order to retain high quality personnel, increase experience levels, gain better sea/shore rotation for our people, improve training levels, while reducing overall manpower costs. This must be accomplished with a strong commitment to taking care of the people we have in the Navy, and who wish to stay, even as total strength decreases.

As the budget process progresses, we are focusing on basic goals during each step of that process, which include but are not limited to:

o Sufficient strength, in correct grades, must be available to man operational forces at levels no less than approved for FY-89.

o Sufficient strength, in correct grades, must be available to accomplish necessary work ashore and provide for improvement in our sea/shore rotation for career enlisted personnel. My goal is to provide our sailors with a minimum 3:3 rotation.

o The career content of the force should increase in order to take advantage of quality personnel now on board, reduce training costs and increase readiness through efficiency gained from increased experience.

o Key quality of life programs assume even greater importance. We must continue to vigorously support those programs which are of concern to our people: adequate care for their children, access to suitable housing, protection of their right to freedom of worship. We have an opportunity to better match these programs to force size if we resist the temptation to reduce these programs by the same percentages as force reductions. Quality of life and high retention that will result are essential elements of maintenance of a better trained and experienced force.

o Officer strengths in relation to size of total force should increase as force size declines. We must correct the serious shortages we have endured during the growth years. This is our opportunity to provide more education, better participation in key joint activities and correct shortages in medical manning. We may, as a result, require DOPMA control grade relief during transition periods. Along this same line, we need to be careful as we develop more joint expertise within our officer corps. Every change has an effect, particularly in the delicate balance between sea/shore rotation and the continuous requirements for technical education in an ever-increasingly technological world. While we have been wholehearted in meeting both the spirit and letter of the law, we continue to experience problems meeting TITLE IV requirements in the nuclear officer community, including aviators who are enroute to command of nuclear aircraft carriers. The stringent training and education requirements of the nuclear propulsion program place significant time demands on an officer's career. We need to maintain a careful balance between technical and joint professional education so that operational proficiency does not suffer. We need to accomplish this while maintaining realistic demands on our officer corps.

An additional comment is appropriate with regard to our support of Navy retirees. As long-standing members of the Navy family, our retirees deserve and will receive the support of the Navy in protecting benefits and entitlements they have earned through their years of dedicated service.

Second, Maintaining an Effective and Balanced Warfighting Capability. Earlier in this statement I described the components that constituted a balanced Navy -- strategic forces, ASW forces, carrier battleforces, amphibious forces, mine countermeasures, combat logistics forces and special operations capability (SEALS). In order to maintain maritime superiority by sailing the world's most capable Navy, there must be balance among these forces as well as balance among warfare areas.

Both force structure balance and warfighting capability balance are essential, because that is how we can simultaneously: (1) counter any threat in case of global war and (2) ensure that low intensity conflict requirements are met. In the first instance, the global war case, anti-submarine warfare remains my top warfighting priority. Admittedly, today the prospect of a major ASW campaign in the North Atlantic is remote. We can not become complacent, however. The ASW forces needed to prevail in such a campaign can not be created over night. It is essential that we maintain today's qualitative edge in order to compensate for numerical inferiority. Furthermore, increasingly ASW is no longer an area that can be neatly limited simply to East-West competition. I am very concerned about the technical advances being made in diesel submarine technology and the availability of that technology. Diesel submarines available for purchase today will achieve significant endurance gains through new air-independent technology which is being marketed around the globe.

In the case of low intensity conflict (LIC), contingency response will continue to be our frequently assigned mission. We recognize that all associated LIC warfighting requirements are

not necessarily a subset of global war. LIC does make special demands. The likely operating circumstances of LIC require that continued priority be afforded to maintenance of a timely and accurate tactical picture and to possession of effective and quick reaction combat systems, improved target recognition ability and in integrated hard kill/softkill (decoys and electronic warfare) capability. Denial of opponents' surveillance, communications and targeting systems will be crucial and, with effective electronic warfare capabilities, offer national leadership increased options.

Ensuring the Future -- the Capability to Meet Tomorrow's Threat. The United States must remain in the forefront of military application of emerging technology. The global technical revolution and the remarkable rapidity with which weapons technology proliferates means that we must ensure that the Navy is properly positioned to take advantage of any relevant technical breakthroughs -- such as superconductivity or neural networks. As it has since World War II, our naval warfighting effectiveness is based on technical superiority. It is the sine qua non to future security and capability. In times of funding reductions, when our military and naval forces will become smaller, the technology base can not be neglected. As I said last year, technology is the seed corn of our future.

The marriage of leading edge technology and practical warfighting applications associated with future naval weapons systems -- the Arleigh Burke destroyer, the Seawolf class attack submarine and the A-12 all-weather attack aircraft -- is essential to the superiority of a smaller Navy. These technically advanced systems will be the mainstay of our capability well into the next century. These are linchpin weapons systems, specifically designed to be capable against the full range of possible threats -- from the Soviets or Soviet supplied countries to other increasingly sophisticated and well armed emerging nations. They represent a major generational leap

into the future that will assure that the U.S. Navy can maintain its utility to the country in coming decades.

In this decade of uncertainty and transition, surveillance and intelligence will be increasingly valued at all levels of the chain of command. To ensure our continued superiority in command and control, my goal is to be prepared to enter the 21st Century so that we are able to conduct prompt and sustained combat operations at sea, with a survivable, combat-ready space and electronic combat battle management system capable of satisfying the needs of maritime forces across the spectrum of conflict.

CONCLUSION

Since 1950 the focus of national strategy has been the prevention of war in Europe with the Soviet Union. That strategy has been successful. Even in the face of the instability created by the dramatic changes in Eastern Europe, the prospect of a European war between the superpowers no longer seems very credible. As a result, in the 1990s, our primary defense concerns will shift away from a sharply continental focus to more broadly encompass Europe, the Pacific, Middle East, Caribbean Basin and Southwest Asia. An aspect of this is in what way and to what degree the American public wants the United States to continue its global leadership.

The major change that this strategic outlook implies is a reduction in the size of overseas forces and support structure concentrated on the European central front. <u>The requirement for globally deployed naval forces has not been reduced</u>. In fact, one could argue that the value these forces provide in flexibility, instant mobility and deployability in response to world-wide crisis has increased in importance.

The fact is that the United States is an island nation with two of our fifty states separated from the mainland by thousands of miles of ocean. The vast majority of the trade that supports

our quality of life is with nations across the great expanse of the Atlantic and Pacific Oceans. We are critically dependent on this trade for economic survival; globally deployed naval forces that ensure freedom of the seas are essential to this equation. The realities of the changing world situation dictate that our limited resources be distributed in a manner that recognizes the changing strategic environment.

The Department of Defense exists to execute our nation's strategy. To do that effectively in an environment of declining resources, we must maintain those forces best able to execute that strategy. The attributes naval forces bring to the table are: (1) maritime control to ensure freedom of the seas, (2) tactical air power based at sea, relatively free from overseas basing requirements, (3) flexibility, (4) mobility, (5) prompt response, and (6) staying power.

The United States Navy has proven its ability to complement and fully support our national goals, whether in peacetime or wartime. In a war, control of the seas does not guarantee victory, but failure to control the seas certainly guarantees defeat. Similarly, in crises or low-intensity conflict, naval forces alone may not guarantee resolution in favor of the United States, but they do guarantee that national decision makers will have a full range of options to influence events and apply U.S. power to satisfactorily resolve crises.

Our democracy, our freedom, and our economic prosperity are worth protecting. The role that sea forces will be called upon to perform in ensuring national security by limiting crisis, controlling escalation or terminating conflict will increase, rather than diminish, in the 1990s and beyond. We need to ensure that the Navy of our future is of sufficient size, quality and capability to carry out this role.

APPENDIX

MAINTAINING A BALANCE

THE FY 1991 NAVY BUDGET

INTRODUCTION

The FY 91 Navy Budget enables the United States to maintain strategic deterrence, contribute to the defense of Europe, sustain a forward presence in the Pacific and ensure freedom of passage in international waterways. This year's budget also reflects the continued decline in defense appropriations since 1985.

Maritime superiority is a critical ingredient in U.S. national security and is possible only through the maintenance of mobile, highly ready, and well-equipped forces. This budget seeks a careful balance among a variety of forces to ensure power projection capabilities that are forward deployed, flexible, and able to fulfil a variety of regional roles.

The U.S. Navy's vital contribution to national security is routinely acknowledged and employed by our national leadership. The U.S. Navy provides the most secure leg of the strategic triad and the most stealthy weapon -- the nuclear submarine. Naval forces also assure the security of the sea lines of communication to Europe and the wherewithal to conduct maritime campaigns on the flanks of Europe, if necessary. They ensure access to the Pacific Rim, South America, and Southwest Asia while at the same time responding to concurrent crises. They have had a critical impact on maintaining regional stability.

Most impoftantly, naval forces are expert and practiced in the role of crisis response and low intensity conflict. Responding to crises is a traditional naval mission -- one that dates back two centuries to the time of the Barbary Pirates.

Aside from the demonstrated expertise and readiness of naval forces, there are a number of other reasons why our national policymakers are predisposed toward using naval forces in times of crisis. For the most part, traditional areas of crises have

been particularly accessible from the sea. Naval forces can provide air superiority, assault troops, and force projection capability worldwide without the need for base or overflight rights. Once deployed to an area, these forces can remain on the scene indefinitely or can disengage promptly and unobtrusively when the situation dictates.

The Navy of the future must be able to support the nation's national security posture in a changing world. In addition to the sea-based portion of our national deterrent force represented by the Trident submarine force, we must also have strong and credible ASW forces to guarantee protection of the SLOCs, deter the Soviets, and prevail against the rapidly growing Third World submarine threat. We need surface battle forces, centered on tactical air power at sea and AEGIS anti-air capable surface warships all armed with sea-based land attack cruise missiles in order to influence events ashore. The amphibious forces needed to project land combat power from the sea and the logistics force essential to maintaining forces on the scene must be available in sufficient numbers to support U.S. goals. The growing Third World mine threat requires that we maintain a mix of long endurance mine countermeasure ships and quick reaction minesweeping helos. The Navy SEALs represent the contribution of naval forces to the special operation force that are increasingly called upon in low intensity conflicts. Finally, the Navy must be ready to support national strategic sealift to return the Army to Europe in the event of crises in that rapidly changing region.

The Navy/Marine Corps contribution to the nation's security is an <u>everyday</u> activity, a 24-hour day job. Today Navy ships and aircraft and our men and women are forward deployed around the globe, in the Eastern Mediterranean, the Persian Gulf, the Western Pacific, the Caribbean, on-station to do the nation's bidding. The forces and capabilities requested in this year's budget are necessary to sustain this presence and maintain maritime superiority.

FORCE STRUCTURE

Force structure includes the cost of building new ships, procuring aircraft and converting or reactivating older ships. It is our investment in the future. This budget request

represents the results of our efforts to respond to future national requirements while taking into account resource constraints in a changing world.

The capabilities and characteristics required by the United States Navy to conduct its mission in support of the national military strategy are translated through a process of analysis and judgment into the force structure we have and are recommending. The Navy's warfare tasks must be carried out against opposition whose capabilities are increasingly and disconcertingly close to "cutting edge" technology. The proliferation of very capable submarines in the Third World means that ASW is no longer a problem that is limited to dealing with the Soviet submarine force. We can no longer exclude ASW considerations when we discuss the balance of ship, submarine and aircraft types that are necessary to prevail during crises and low intensity conflict.

In fact, antisubmarine warfare continues to remain my primary warfighting concern. This is a direct reflection of the global proliferation of submarine capability and antisubmarine warfare technology that I have just mentioned, and the fact that despite other changes in the Soviet Union, the Soviet submarine force is being modernized at an undiminished pace. To maintain our warfighting and surveillance edge, we will need a variety of modern, advanced ASW capabilities, in particular our finest ASW unit, the new SSN-21 SEAWOLF class attack submarine.

Our shortage of capable antiair (AAW) combatants is a matter of continued concern. The budget-driven decommissioning of our older guided missile destroyers (earlier than the end of their useful life) has highlighted that shortfall, and places a premium on the need for a steady introduction of their replacement -- the DDG-51. The proliferation of sophisticated high-performance aircraft and cruise missiles is the reason that the continued construction of warships with an AEGIS capability is my top surface combatant priority. The soon-to be introduced ARLEIGH BURKE (DDG-51) and the proven AEGIS (CG-47) class warships will form the backbone of the future combatant fleet for the foreseeable future.

Ship Procurement (SCN)

The FY 91 Budget provides for a Navy of 546 ships, 25 less than anticipated in FY 90. We will decommission 23 ships. These

decommissionings will not be matched quantitatively by new construction. The Shipbuilding and Conversion, Navy appropriation request of $ 11,195.2M in FY 91 will fund 15 new construction ships. These ships include two SSN-21 (SEAWOLF) class attack submarines, one TRIDENT class ballistic submarine, five DDG-51 (ARLEIGH BURKE) class AEGIS destroyers, one LHD (amphibious assault ship), one LSD (CV) (Landing Ship Dock, Cargo Variant), three MHCs (coastal minehunters), one AOE (fast combat support ship) and one TAGS (ocean surveillance ship). Funding for twelve LCAC (Landing Craft Air Cushion) craft is also included.

SHIP CONSTRUCTION PROGRAM

NEW CONSTRUCTION	FY 1990	FY 1991
Trident (Ballistic Missile Submarine)	1	1
SSN-688	1	-
SSN-21 (Attack Submarine)	-	2
DDG-51 (Aegis Destroyer)	5	5
LHD-1 (Amphibious Ship)	-	1
LSD-41 (Cargo Variant)	1	1
MCM	3	-
MHC-51 (Coastal Minehunter)	2	3
TAO	-	-
TAGOS	1	-
AE	-	-
AOE	1	1
Oceanographic Research	3	1
AGOS	-	-
ARS	-	-
AR	-	-
LCAC (Landing Craft Air Cushion)	(12)	(12)
Sof Landing Craft	(9)	-
USCG Icebreaker	1	-
USCG Patrol Boats	(12)	-
Subtotal	19	15
Conversion		
CV Slep	1	-
Enterprise Refueling/Mod	1	-
AO Jumbo	1	-
Moored Training Ship	(1)	-
Subtotal	3	-
TOTAL: SHIPS	22	15

The Submarine Force

The nuclear submarine force has been executing and perfecting stealth for over 30 years. Our current attack submarine force, led by SSN-688 (LOS ANGELES) class submarines, maintains an unchallenged worldwide presence. This force is capable of delivering a wide variety of weapons --the MK-48 and MK-48 Advanced Capability (ADCAP) torpedoes, HARPOON and TOMAHAWK anti-ship missiles, TOMAHAWK land attack cruise missiles, and mines.

The SSN-21 (SEAWOLF) class submarine is designed to counter the rapidly increasing capabilities of the Soviet submarine force projected for the 1990s and beyond and will be a revolutionary improvement in submarine warfighting capability. In contrast to the four submarines delivered to our Navy in 1989, the Soviets completed nine submarines, five nuclear and four diesel, slightly above average for the 1980s. Production of the AKULA SSN, SIERRA SSN, VICTOR III SSN, OSCAR II SSGN and DELTA IV SSBN continues. Any impact of defense cuts and economic restructuring on the Soviet submarine construction programs has not yet been felt. Minor delays in production which might signal a slowdown are offset by continued building in shipyards publicly designated for transition to civilian work. We believe the current submarine program will keep major Soviet shipyards employed through 1993 at historic construction rates.

Counterposed to this substantial Soviet threat is the SEAWOLF SSN, the world's foremost submarine: quiet, fast, and outfitted with advanced sensors. The SEAWOLF will represent the most formidable ASW platform in the world and will provide a technology hedge against the increasingly sophisticated and always difficult area of anti-submarine warfare.

Our ballistic missile submarine force will continue modernization over the next decade, the result of long-standing plans to build a strategic weapons system composed of large, very quiet submarines armed with long-range weapons -- TRIDENT submarines armed with TRIDENT II D-5 missiles. This submarine entered the force in 1989 with the commissioning of USS TENNESSEE.

The expanded capabilities of TRIDENT will challenge a number of assumptions that have conditioned thinking about ballistic missile submarines in the past. They also will further exemplify the invulnerability and enhanced communications reliability of these submarines in the context of their already enormous contribution to

the triad. This will almost certainly produce a dramatic expansion of the role played by the SSBN force. While operational tests are incomplete, it is clear that the missile's accuracy will be on the order of twice that of the currently deployed Trident I. Also, when armed with the larger of its possible warheads, Trident II will have the capability to destroy hard targets, earlier thought to be vulnerable only to high-yield bombs or to the most modern U.S. ICBM.

The Aircraft Carrier Force

Carrier Battle Groups represent the single most important aspect of our sea control and power projection capability. We will continue to need NIMITZ-class aircraft carriers and their multi-mission air wings well into the next century to establish and sustain the tactical air superiority at sea critical to power projection, sea control and protection of the sea lines of communication. As our overseas base structure shrinks, it is the mobile base -- the aircraft carrier -- that will allow us to bring tactical aircraft to the scene of crises and stay there until needed or until diplomacy solves the situation.

A well-structured program of new construction must be set in place to offset the decommissioning of the older units. The Navy's experience with the multi-ship acquisition of USS ABRAHAM LINCOLN (CVN-72), GEORGE WASHINGTON (CVN-73), STENNIS (CVN 74), and UNITED STATES (CVN-75) demonstrates that it is most efficient and economical to procure two carriers under one contract.

There are no conversion ships included in the FY 91 request. USS KITTY HAWK (CV 63) is now being modernized as part of the SLEP. USS CONSTELLATION (CV 64) is scheduled to commence SLEP in July 1990. Carriers which have completed their SLEP, USS SARATOGA (CV 60), USS FORRESTAL (CV 59) and USS INDEPENDENCE (CV 62), continue to operate reliably.

The Surface Combatant Force

Over the past ten years, the surface Navy has undergone a revolution at sea. The advent of AEGIS, SQQ-89 ASW system, LAMPS MK III helicopters, TOMAHAWK and VLS has altered the art of naval warfare and provides a solid foundation for the Navy of the 21st century. The capabilities of these multi-dimensional systems, and the flexibility they exhibit in adapting to changing requirements are the hallmarks of this new generation of ships and weapons. Ships are valued because of the warfighting capability of the systems they have installed, not

because of their class. Versatility, capability against the toughest threats, efficiency and affordability are what makes a modern surface combatant a sound investment. The traditional categories of "frigate," "destroyer" and "cruiser" have become a less important yardstick for determining capability.

As a result, our at-sea antiair warfare capability will continue to revolve around the AEGIS force. The CG-47 (TICONDEROGA) class of AEGIS guided-missile cruisers is comprised of 27 ships fifteen of which have been commissioned to date. They have operated with enormous success in all environments and in every ocean in a variety of employments. The last five ships of the class were authorized in FY 88 and the final ship is scheduled for delivery in 1994.

The DDG-51 (ARLEIGH BURKE) is the second class of AEGIS warships authorized by Congress and currently under construction. The mission of the AEGIS guided-missile destroyer is the simultaneous execution of naval warfare in its four dimensions: antiair, strike, antisubmarine and antisurface. AEGIS equipped DDG-51 class ships will complement the CG-47 class cruiser in Carrier Battle Group operations. Our budget submission this year provides funding for the five FY 91 ships in a multi-year procurement strategy approved by Congress. Five ships per year maintains the dual ship builder industrial base necessary for a competitive environment, and is the most efficient way to redress our AAW shortfall.

The Amphibious Force

The FY 91 budget also reflects our continuing plan to offset amphibious ship block obsolescence. The follow-on units of the WASP-class (LHD 1) and the cargo variant WHIDBEY ISLAND-class (LSD 41) represent the modern amphibious lift required for the Navy-Marine Corps team to provide flexible and mobile forces for crisis response. The continued investment in 12 additional Landing Craft Air Cushion (LCAC) vehicles represents a marked improvement in our ability to rapidly move Marines ashore in support of national objectives.

The Mine Warfare Force

The ambitious plan to modernize our obsolescent minesweeper force continues this year with the request for three MHC-51 minehunters. The abundance of mines in the Third World reinforces the need for a modern mine countermeasure force capable of meeting the full spectrum of mine threats. The value of our surface mine countermeasures force

was clearly seen in the Persian Gulf where the United States mobilized and deployed minesweepers in order to protect shipping and guarantee freedom of navigation.

While the CH-53 Super Stallion minesweeping helicopter plays an important role in our quick reaction and shallow water countermeasures capability, minesweepers and minehunters are the only way to sustain a mine countermeasures effort -- as in the Persian Gulf -- over a long period of time. These ships are also necessary to detect and sweep modern, deep-moored mines.

The Combat Logistics Force

The FY 91 budget request also includes funds for the third of four AOE-6 Fast Combat Support Ships. An increase of $27.9 million to the AOE program is proposed as a result of prior year shipbuilding execution experience. The inherent mobility and flexibility of naval forces is defined by their ability to operate independently of shore support for extended periods of time. This capability rests on the ability of "floating logistic bases" to replenish underway, at sea, vital supplies of weapons, fuel, and food to carrier battle forces on station throughout the world. These ships will assume even greater importance to deployed naval forces if the access to secure overseas bases decreases in the future.

The Strategic Sealift Force

Strategic sealift is part of the mobility triad (sealift, airlift and prepositioning) and is necessary for both our national economy and national defense. Sealift is a national issue requiring national solutions. The adoption of the National Sealift Policy last year is important to maintaining the country's forward defense strategy. Changes in our posture overseas may cause some shifts in sealift requirements. Until the U.S. force structure and disposition of forces withdrawn are settled, attempting to determine new strategic sealift requirements is not practical. It would be premature to modify our strategic sealift approach until we determine precisely what our new goals will be.

We have a significant capability today. The eight fast sealift ships we own will lift an entire armored or mechanized division's equipment. We will continue to assess how this capability, along with the very successful and flexible maritime prepositioning ship (MPS) and afloat prepositioned force (APF) programs will meet current and future requirements. It is clear, however, that America's historic

reliance on oceanic trade will continue and will likely increase, even while the inventory of U.S. flag merchant ships decreases from the 893 ships available in 1970 to a forecasted force of only 200 ships by the year 2000.

Aircraft Procurement (APN)

The Aircraft Procurement, Navy appropriation request of $ 9,838.6M in FY 91 will fund the procurement of 163 aircraft and the remanufacture of an additional 15. Also included in the budget request are funds for modification of existing aircraft and procurement of the spare parts and support equipment necessary to effectively use these aircraft. This request provides the best distribution of available funding to provide a total warfighting aviation mix. The current force level requirements include 13 active and two reserve carrier air wings, 24 active and 13 reserve ASW patrol squadrons, and three active and one reserve Marine air wing. We find these numbers adequate to meet the challenges of the 1990s.

AIRCRAFT PROCUREMENT PLAN

AIRCRAFT	FY 1990	FY 1991
A-12	*	*
EA-6B	-	3
AV-8B Harrier (Attack)	24	24
F-14D/D(R)	24***	12**
F/A-18 Hornet (Fighter)	66	66
CH/MH-53E Sea Stallion (Minehunting)	10	23
V-22 Osprey	-	-
AH-1W Sea Cobra	-	-
SH-60B Seahawk (ASW Helos)	6	6
SH-60F (CV ASW Helo)	-	18
P-7 (LPAACA)	-	-
E-2C Hawkeye (Surveillance)	4	6
SPECIAL AIRCRAFT	*	*
T-44 (Trainer)	5	-
T-45 Goshawk (Trainer)	-	12
E-6A	-	-
HH-60H	-	-
TOTAL AIRCRAFT	139	170

* CLASSIFIED
** REMANUFACTURED AIRCRAFT ONLY
*** INCLUDES 18 NEW AND 6 REMANUFACTURED AIRCRAFT

Strike

Strike/antisurface warfare aircraft are the means by which our carrier force projects offensive power ashore or against other naval forces. All weather attack responsibilities will continue to be executed by the A-6E INTRUDER until the A-12 is introduced into the fleet in the mid-1990s. The A-12 is the Navy's top aviation priority. Incorporating significant stealth characteristics and greater range, this revolutionary tactical aircraft will be able to penetrate even the most heavily defended enemy areas to reach and destroy targets. The anti-air threat to aircraft continues to grow at a phenomenal rate. Throughout the world the proliferation of easy-to-use anti-air missiles and increasingly sophisticated air defense networks places a premium on the introduction of stealth aircraft. The Air Force and the Navy have joined forces in the development of this aircraft and have achieved reductions in development and procurement costs.

The versatile F/A-18C Hornet will continue to enter the fleet at a steady rate. A force-multiplier capable of close air support, fighter escort, interdiction, and fleet air defense, this aircraft features advanced avionics, low maintenance, superb displays for the single pilot, and excellent growth potential.

Air Superiority

Antiair warfare aircraft are the primary means for achieving air superiority throughout the carrier battle group's offensive reach. The key element of the AAW force is the F-14. The F-14D will first enter fleet service in FY 90, representing a major upgrade to new and existing aircraft and providing new high performance engines, a state-of-the-art digital radar, and new digital avionics. The FY 91 budget contains funds to remanufacture 12 F-14As into F-14Ds. To provide all weather active and passive air and sea surveillance, six E-2C Hawkeye aircraft, featuring the APS-145 radar, are funded. Three EA-6B electronic couhtermeasure aircraft will undergo a remanufacture program designed to sustain their effectiveness against advanced threat systems already appearing around the globe.

Antisubmarine Warfare

ASW aircraft are critical factors in the Navy's number one

warfighting priority. Important in both the strategic and tactical arenas, tactical air ASW exploits two unique characteristics of aircraft: high speed mobility with associated operational flexibility, and moderate immunity from detection and counterattack. The P-7 Long Range Air ASW Capability Aircraft (LRAACA) will provide increased payload, greater range, longer endurance on station, higher transit speed, and dramatically improved reliability, maintainability and survivability. Equipped with the Update IV submarine detection system, P-7 production is scheduled to begin in FY 92 with advance procurement funds for the first three aircraft included in this budget. The Update IV system will also be retrofitted into the existing P-3 fleet. Funding for upgrades to our carrier-based S-3 ASW aircraft will continue in FY 91, providing the S-3 with an improved avionics package and the APS-137 Inverse Synthetic Aperture Radar (ISAR). The S-3 modernization is getting rave reviews from fleet operators.

Procurement of two SH-60 shipborne helicopter variants will continue in FY91 -- six SH-60Bs (LAMPS MKIII) which provide both ASW and anti-surface capabilities to our battle groups and to our surface combatants, and eighteen SH-60Fs (CV helo), equipped with dipping sonar, which will be the carrier-based replacement for the aging SH-3. This new carrier ASW capability is expected to be deployed in FY 91.

Training

In FY 91, replacement training aircraft are needed for current T-2 and TA-4 jet trainers. This follow-on trainer, the T-45 GOSHWAK, comes with an integrated system that provides virtually all of the fundamental elements of flight training -- academics, simulation, and flight -- all of which will be coordinated by computer based training integration. Funding for twelve T-45s is included in the FY 91 request.

READINESS

Operating an effective Navy on a day-to-day basis is the goal of readiness. It constitutes the ability of the Navy to execute its national defense responsibilities, which may range from a presence in response to threats to the lives of the hostages, to a strike deep into the heart of nations supporting terrorism. Navy readiness is America's insurance for crises. It consists of operations and support funding for people, initial and replacement spares, base operations, training, ordnance, fuel and maintenance.

The request of $24,531.6 million in FY 91 will support naval operating forces including operation and maintenance of ships, aircraft (including Marine Corps aircraft), weapons and support equipment, as well as the total spectrum of ongoing activity within the Navy support establishment.

Our people are our most fragile and perishable readiness asset. Any mandated reduction in forces must be clearly balanced so as to not compromise our personnel experience levels or our training requirements. We must continue to pay close attention to quality of life issues, including a decent wage, reasonable PERSTEMPO, high-calibre and quality training, continued improvement of medical services, decent housing, spiritual counseling availability and enhancements in dependent programs.

Continued success at maintaining a well-motivated, high-quality All-Volunteer Force capable of working with and operating technologically sophisticated equipment will rest directly on the continued investments we make in them. Necessary to this are maintenance of equitable compensation, comparable to civilian rates, an adequate quality of life and a rational end-strength.

The request of $19,363.1 million for MPN in FY 91 will support an end-strength of 584,800, a decrease of 5701 from FY 90. This end-strength decrease is related to the inactivation of two battleships, the transfer of frigates to the NRF, the change in delivery of the GEORGE WASHINGTON and a reduction in naval infrastructure. Additionally, the Defense Management Review resulted in a reduction of 1668 in end-strength related to the civilianization of military personnel in various support functions. The MPN funding increase in FY 91 is primarily tied to the pay raise of 3.5% effective 1 January 1991. This funding increase is partially offset by strength reductions and a transfer of Subsistence-in-Kind funding from the Military Personnel, Navy appropriation to the Operation and Maintenance, Navy appropriation.

SUSTAINABILITY

Sustainability is essentially the "staying power" of the Navy. It is measured by our ability to supply our forces with the required fuel, spares, repair parts, ordnance and food, and includes funding for war reserve stocks. Sustainability is the life-line that allows us to maintain a combat ready, forward deployed Navy around the globe.

In light of force structure changes and the reduced likelihood of a near-term conflict with the Soviet Union, we will continue to re-evaluate the scenarios and parameters from which we derive the sizing of our weapons inventories. We intend to avoid accumulating large inventories of high-cost weapons that would likely be made obsolete by advances in technology before they would be needed in combat. Procurement decisions favor those weapons which would be used in the most likely conflict scenarios.

The Weapons Procurement appropriation request of $6,161.4 million funds procurement of strategic and tactical missiles, satellites, torpedoes, guns and other weapons, ammunition and other ordnance, spare parts and support equipment. The Trident II (D-5) program resumes full rate production following recent successful flight tests. The TOMAHAWK missile program supports maximum competitive dual-source production levels, accelerating near-term procurement while capturing substantial cost efficiencies. A total of 900 STANDARD missiles will be bought on a dual-source basis for our AEGIS cruisers and destroyers.

Part of the sustainabilty pillar includes our Reservists, for which funding in the amount of $1,624.6 million in FY-91 has been requested. This will support an end-strength of 149,700 Reservists, a decrease of 3,700 from FY 90. This decrease reflects the combined effect of the additional ships transferring to the Naval Reserve, a Navy decision to reduce Full Time Support workyears, and a DOD decision to reduce the Naval Reserve infrastructure. Funding will also provide for Individual Ready Reserve (IRR) screening of 34,480 reservists and an additional 289 full time support personnel to accommodate a net increase of five ships being introduced into the NRF in Fy 91. The same FY 91 pay raise factor described for the MPN appropriation is reflected in this account.

MODERNIZATION

Modernization includes all Navy research, development, testing and evaluation (RDT&E), fleet modernization or ship alterations, and aircraft and weapons modifications. These funds allow for cost-effective improvements to current systems and for research and development so that we might identify the most promising avenues for future improvements.

Research and development provides the means to maintain our warfighting edge. In addition to improving our warfighting

capability, technology also provides the means by which we increase reliability, effectiveness and maintainability of systems and component equipments while reducing manning, support and follow-on acquisition costs. Operational and tactical superiority demand a dynamic research and development program to support the forces of the future and to hedge our bets against new and "surprise" technologies that could pose grave dangers. We must maintain a vigorous technology base so that the newest and most modern of technologies are understood and available for application to defense needs if required. Since the MONITOR and MERRIMAC, success at sea has been determined by the intelligent and innovative application of technology. If we lose our technological edge, we lose maritime superiority.

The RDT&E appropriation request is $9,102.4 million, a decrease of $363.4 million from the FY 90 request. Most of this decrease is the result of tactical programs transitioning to production. We are witnessing the fruition of our past investment in RDT&E and must now think about the next generation of weapon systems. The technology base, which provides funding for basic research and exploratory development with the primary objective of increasing fundamental scientific knowledge adaptable to solving needs of widely varying future requirements, increases by $62.5 million over last year's budget. This is our investment in the next generation of naval systems.

Our programming has as one of its aims the maintenance of our technological and operational advantage in antisubmarine warfare. One of the significant characteristics of the SEAWOLF attack submarine is the designed-in capability to accept future technological advances. The Advanced Submarine Technology Program Office, in the Naval Sea Systems Command, is working closely with the Congressionally-directed Defense Advanced Research Projects Agency's (DARPA) Advanced Submarine Technology Program to identify revolutionary submarine technologies so that we may preserve our undersea superiority.

MEDICAL CARE

It is essential that we have a cadre of professionally trained and physically capable men and women to man the fleet. My continued primary commitment to our people has resulted in a significant shift of resources to the issue of medical care for themselves, their families and our retirees. The impressive investment we have made in

medical readiness over the past several years has left us better able to support our sailors and marines. This preparedness allows us to reorder our near term priorities toward refurbishing our peacetime healthcare system. Prudent investments in a balanced military medical system help us retain dedicated military professionals. Carefully planned and executed, these investments provide tangible returns by allowing us to partially escape the high costs of purchasing healthcare services through the CHAMPUS program.

CONCLUSION

In an international environment marked by the potential for continued military competition with the Soviet Union as well as a continuation of the instability that has defined much of the world since 1945, the size and capability of the United States Navy will be a significant determinant of our country's ability to fulfill its role as the world's only true superpower. At a minimum, the U.S. Navy must be large enough to maintain a credible naval deterrent in the event of an adverse change in the international outlook of the Soviet Union. We must be able to prevail against the Soviet Navy and ensure that the sea lines of communication with our allies remain open. We must also have sufficient forces to maintain a forward presence in East Asia, Southwest Asia and the Mediterranean. Additionally, we will be playing an increasingly important role in our national effort against drugs.

In view of our experiences with contingency and limited objective operations as well as Third World crises since World War II, we must have sufficient forces to cover those events without abandoning our presence in other areas of the world. In the 1990s, our nation's defense concerns will shift away from a sharply continental focus to more broadly encompass Europe, the Pacific, Middle East, Caribbean basic and Southwest Asia. We must also have sufficient forces to ensure our maritime superiority while maintaining a tolerable quality of life for our seagoing sailors, through a reasonable rotation of forward deployed ships.

In general, the FY 91 Navy budget request enables the U.S. Navy to maintain a properly sized and balanced force in the face of a reduced Soviet threat.

Chairman NUNN. Thank you very much, Admiral. General Welch.

STATEMENT OF GEN. LARRY D. WELCH, CHIEF OF STAFF, U.S. AIR FORCE

General WELCH. Thank you, Mr. Chairman. I would like to add just a few comments to those you have already heard. It is clear that the 1991 budget that is before this committee acknowledges continuing changes both in national priorities and in the emerging world situation.

The committee is certainly well aware that in response to changing national priorities and to expected changes in the threat, the defense budget has been on a downslope since 1985, but we are beginning to see some of those expected changes in the threat emerge.

The Air Force has adjusted and we will continue to adjust our plans and programs to provide the capabilities that we think are most relevant to the emerging situation. In fact, we have already made fairly drastic changes in our force plans as a result of that.

I will give just a couple of examples of that. For example, from 1986 through the end of this year, we will have reduced the size of the Air Force already by 35 squadrons of aircraft of all kinds, and by 63,000 military people, and we will expect those reductions to continue.

To give some better measure of the magnitude of that: By the end of this year, you will have the smallest Air Force you have had since the Korean war and those adjustments have already taken place.

That assumes of course that events continue to unfold as expected, so the fact is we are clearly becoming a smaller Air Force. Just how much smaller we will eventually be must ultimately rest on the question of how much is enough.

It is too early, at this point in time to decide exactly how much is enough in terms of size. It is not too early to decide that whatever size force we end up with it must absolutely be a high quality force.

We have such a high quality force, and we can maintain that high quality force even in the face of the expected budget reductions if we do it the right way and if we do it with the kind of patience required to restructure as described by my friends from the Army and the Navy.

We cannot predict future political developments with any precision. We do know a great deal about the emerging nature of the various military capabilities around the world that we might have to deal with. One of the facts of life that we increasingly will deal with is the proliferation of high technology systems all around the world.

We will not see a reversal of that in my view. We will see a continuing increase. A single factor, an important driving factor, is the Soviet's quest for hard currency. This makes them even more willing to sell top quality Soviet equipment to any comer who has the cash to buy it.

So, the kinds of threat qualities that we have traditionally associated with Central Europe will also be found elsewhere around the

world—not in the size, not in the magnitude, but in the terms of the qualities.

That brings me to what I mean when I say we have to have a high quality force, whatever size that force is. Obviously, the first ingredient is people. I think I need not add any more emphasis to what you have already heard about the tremendous importance of keeping faith with those people.

I can tell you that failure to reprogram as requested, to keep faith and to keep contracts with those people who expected to make a career out of the military would be a devastating mistake. We have already done a great deal of damage. We simply cannot afford to do more.

I do not want to spend a lot of your time talking about specific systems. I understand that is not the purpose of the hearing; but I do have to comment on qualities and equipment.

We have restructured our programs and restructured our requests to the point that we are down to a single modernization program for virtually all of our conventional mission capability areas.

For example, the Air Force and the Navy are asking for a single program to modernize our air superiority capabilities for tactical forces wherever they may need to be employed. If we complete the Advanced Tactical Fighter for the Air Force and the Navy on the current schedule, the first squadron will be ready in 1999.

By that time, the Air Force's F-15 and the Navy's F-14 will have served that air superiority role for 25 years. The fact that we could modify, upgrade, and stretch the capabilities of those airplanes to perform that mission for 25 years is a testimonial to the quality of those aircraft.

If we do not continue with this single modernization program for that mission area, we will inevitably surrender technological superiority in that very important mission area with all the impacts that go with it.

We have a similar situation in the interdiction mission, again, for the Air Force and the Navy. Having agreed to terminate the F-15E program, and with the termination of the Navy's A-6 program, we have a single program to modernize the interdiction forces of both services, and that is the A-12 program.

In the same vein, the C-17 is the single airlift modernization program currently in our program to modernize the airlift forces required to deliver and support any and all of our forces wherever they may be required.

I do not need to go on in that vein, but I do need to make the strongest possible point: that we have pared down our modernization goals to a single program in each of these very, very important mission areas; and however the world unfolds, we know we have to have the capability to respond when and where needed with those kinds of tactical capabilities.

You have heard a great deal about the strategic modernization. I do not have anything to say in my opening statement. I am sure that I will have opportunities to respond during the ensuing discussion.

So, let me simply close by saying that what you are seeing in the 1991 budget request is a clear recognition that we are going to become a smaller force; that there are important changes going on

in the world, and that we understand we have to respond to those changes; but that we have to do that with a high quality force and we have to do that in a measured way that comes from a planning process, and I ask you to absolutely reject a helter-skelter response to immediate impressions of what is going on in the world.

Thank you, Mr. Chairman, I look forward to the questions.

[The prepared statement of General Welch follows:]

STATEMENT OF: GENERAL LARRY D. WELCH
Chief of Staff
United States Air Force

MR CHAIRMAN AND MEMBERS OF THE COMMITTEE

In light of all the changes taking place in the world, we must revise the basis for planning U.S. military capability. As we do that, it is useful to remind ourselves that the basic mission of the United States Air Force remains to organize, train, equip, provide, and support aerospace forces to deter aggression and, if necessary, defeat aggressors across the spectrum of conflict. This supports the most fundamental national security objective of the United States, the preservation of our free and independent nation with its institutions and values intact.

A number of dynamic and rapidly changing factors are creating a significantly different world environment as we approach the 21st Century. A prominent characteristic of the world in the 1990s and beyond may well be instability. While the Soviets appear to be shifting their focus toward addressing long-standing internal economic, political, and societal problems, they will retain a significant military capability, both nuclear and conventional. Despite some initial reductions, Soviet military capabilities built up during 20 years of relentless growth in Soviet defense spending still remain. Soviet policy declarations reflect changes in intentions, but contain no guarantee of irreversibility.

We will also face security challenges in other, even less predictable areas around the world. The United States has important security objectives in the developing world: promoting freedom and democracy; protecting key strategic resources, choke points, and overflight areas; nurturing defense commitments and security relationships; and stopping the flow of drugs into our nation. The continued spread of sophisticated weapons--nuclear weapons, ballistic missiles, advanced tactical aircraft, modern tanks, and cruise missiles--enable a wide variety

of states to pose potentially dangerous threats to U.S. security or that of our security partners.

The combination of continued threats to America's national security interests, the proliferation of sophisticated weapons, and reduced numbers of overseas U.S. forces in this unstable world presents new challenges for the U.S. military. The likelihood that the U.S. military will be called upon at some time and place to defend U.S. interests in a lethal environment is high--but now, more than ever, the time and place are difficult to predict.

In structuring our forces to support the national military strategy, we can neither adopt the unrealistic assumption that nothing has changed, nor the historically naive presumption that everything has changed. Indeed, the heartening changes we see in the Soviet Union and Eastern Europe reflect the success of our policies. The national military strategy continues to emphasize deterrence--combining forward defense and flexible response to ensure that no adversary could ever expect to gain by attacking the United States or its allies. This strategy supports enduring national security objectives, while providing for a coherent, cost-effective development of military forces.

The maintenance of a stable nuclear balance *vis a vis* the Soviet Union must remain paramount--only Soviet nuclear forces threaten our national survival. Conventional capabilities that provide a rapid, tailored response with a capability to apply force selectively, anywhere on the globe, will remain essential to keep local conflicts and tensions from spreading and threatening U.S. interests and allies. U.S. forces must be capable of hitting hard, precisely, and terminating conflict quickly in order to deter aggression or the threat of it. The requirement for these capabilities is not new, but the balance among them is shifting--reduced emphasis on combating heavy Soviet conventional forces and more attention to other global contingencies.

Given the unpredictability of the future, our force planning must call for an increased emphasis on force projection capabilities--a shift toward even more flexible, rapidly responding, precise, lethal forces with global reach. The Air Force's focus will be on emphasizing those inherent characteristics of airpower--speed, range, flexibility, precision, and lethality--which best support U.S. national security in the uncertain world of the 1990s and beyond. Our planning will be conducted in complementary fashion with that of the Army and Navy.

Adapting the Air Force to the changing world environment has forced some difficult choices in the balance of investments in four major areas: readiness, modernization, combat sustainability, and force structure. The Air Force of the future will feature high readiness forces that emphasize well-trained, quality personnel and high-quality systems. To afford these priorities, we will be forced to make painful reductions in force structure and sustainability. In relative terms, the Air Force will be more CONUS-based, with a smaller and more efficient base structure at home and abroad. It will be more reliant on Reserve components.

While sustaining stable, nuclear deterrence, the emerging Air Force will provide unmatched capabilities in extending U.S. global reach and the ability to respond rapidly to fast developing conventional crises. Missiles and bombers will continue to support nuclear deterrence; bombers, the most flexible leg of the nuclear Triad, will concurrently provide highly responsive conventional power projection capabilities world-wide. Our rapidly deployable tactical airpower can provide air assets for combined, joint, or independent operations with U.S./allied forces. Airlift provides timely global reach to all the Services; tankers enhance not only mobility, but the combat potential of the Services and our allies. Space assets provide communications and information for situational awareness across the planet.

The United States has become an aerospace nation and aerospace power will become increasingly important in the decades to come. Aerospace represents the

cutting edge of advanced technology and a vital element of our economic fabric. The future Air Force will exploit those capabilities to maintain technological superiority through a broad, balanced science and technology program that strengthens the industrial base and forms the foundation of our future military capability. Prudent investment in advanced technology will enable the United States to avoid strategic surprise should the Soviets revert to a more hostile stance and provide the capabilities needed to intervene decisively with minimal casualties against potential well-equipped foes.

Today's Air Force is more capable than at any other time in history. Nevertheless, five consecutive years of defense budget reductions and the prospect for further substantial cuts will constrain our future capability. The proposed Air Force budget for FY 91 is reduced 23.3 percent in real terms from the FY 85 peak, with 6.6 percent occurring in the two years of FY 90 and FY 91. The Air Force investment account (including RDT&E and MILCON) has been cut 29 percent from FY 85 to FY 91, with 7.5 percent of that in the FY 90 and FY 91 years. Defense Management Review (DMR) initiatives will help offset the impact of declining budgets by reducing the cost of modernizing, operating, and maintaining the Air Force. DMR is already expected to provide an estimated $10.9 billion in savings for the Air Force through FY 95 from streamlining acquisition activities and from logistical, operational, and training efficiencies.

The additional Air Force base closure candidates announced for study would provide an estimated $1.8 billion of net savings through FY 95, more than the total Base Closure Commission (BCC) results for the same time period, and $560.0 million in annual savings after FY 95, more than 80 percent of the total BCC results.

To maintain essential capabilities, we will seek to leverage all our investments. First, to maximize the readiness of existing forces, we will continue to focus on spares, support equipment, munitions, and training programs--the same

things that have allowed us to generate almost 80 percent more tactical combat sorties than we could in 1980 and which have put the readiness of our bomber force at an all-time high. Second, we will improve existing systems with cost-effective modifications and upgrades. Examples include B-1B SRAM II integration, KC-135 re-engining, adding multipoint refueling capabilities to the KC-10, and F-16 engine upgrades, all of which provide significant increases in performance and durability for the existing force structure. Third, we will leverage our investment by developing new systems, taking advantage of U.S. technological superiority to meet long-term challenges. The B-2, C-17, and Advanced Tactical Fighter (ATF) are examples of this approach. We cannot afford to abandon current development efforts which are required to meet our national security objectives of the coming decades.

Our People

Recruiting, retaining, motivating, and training quality people will challenge the Air Force throughout the new decade. The value of our people is intrinsic to all of our readiness, modernization, combat sustainability, and force structure decisions. Because fiscal realities have forced us to make concessions in the size and composition of our force, we must ensure that we continue to recruit and retain the best and the brightest. The Air Force depends on the quality and commitment of the Active, Guard, Reserve, and civilian men and women who guarantee our national security.

The Air Force continues to meet successfully its enlisted and line officer recruiting goals, for both quality and quantity. However, we continue to experience major difficulty retaining pilots and physicians. In these changing times, we cannot relax our efforts to provide a competitive compensation package for all of our military personnel. This includes adequate pay and allowances, satisfactory government quarters or housing allowances, full permanent change-of-station

reimbursements, quality health care, and other quality of life benefits.

Over the past years, both the Air Force and Congress have worked on possible solutions to the pilot retention problem. The FY 90 Authorization Act implemented the Aviation Career Improvement Act of 1989, a comprehensive package which addresses this issue for the Air Force and the Navy. The Air Force welcomes the majority of the provisions in the act and is presently assessing their impact on retention.

Congressional action and the FY 90 Gramm-Rudman-Hollings sequester have forced the Air Force to reduce overall end strength without an associated adjustment to our mission, resulting in undermanning in field units. Furthermore, since we could not meet the Gramm-Rudman targets using only manpower reductions, other money-saving measures have been implemented. The programmed military end strengths for FY 90 and FY 91 are now 567,900 and 530,000, respectively. This FY 91 end strength will be 78,000 lower than FY 86, 41,000 of that in FY 90 and FY 91. The programmed civilian end strengths for FY 90 and FY 91 are 262,354 and 258,741, respectively.

Readiness and Sustainability

Building and maintaining readiness and combat sustainability are ongoing processes, always undergoing evaluation and requiring a prudent balance among various spending areas to achieve realistic goals. We place a high priority on improving the combat readiness, as well as the staying power, of our forces. With the improved quality and realism of operational training programs such as Red Flag, we continue to increase the readiness of our operational crews. Major exercises and deployments of Active, Guard, and Reserve units to overseas operating bases provide operations and maintenance specialists realistic exercises in the environment in which they would fight. Improved training and more realistic experience continue to produce safety records considerably better than those

achieved in the mid-to-late 1970s. Consistent with our strategy, we configure Reserve Component forces to ensure their effective engagement in global conflict within days to weeks from the development of a crisis. Active duty forces, of course, provide necessary combat capability day-to-day.

To provide sufficient combat sustainability, adequate spares, supplies, munitions, and fuel must be available to support expected operation tempos and probable periods of conflict. Adequate stocks, support infrastructure, war reserve material, and the industrial base must be prepared during peacetime. We continue to strive to improve industrial base capabilities, but this effort is constrained by budgetary considerations. The Air Force continues to work with all Department of Defense (DOD) and national agencies to offset the effect of budget reductions. Whenever possible, our acquisition policy provides incentives for the industrial base to sustain the logistics support of our forces. The Air Force will continue to strive to maintain peacetime spare parts stocks, procure adequate levels of wartime spares and equipment, perform critical aircraft modifications, improve the industrial base, and increase our sortie generation capability within the constraints of fiscal policy.

Strategic Forces

Strategic forces provide nuclear deterrence, worldwide conventional power projection, and strategic defense across all levels of conflict. While the prospects for a Strategic Arms Reduction Talks (START) agreement are high, the Soviets have continued unabated a modernization of all components of their strategic offensive forces that could be retained under START limits. Therefore, we must structure our forces to be adaptable to the probable constraints and needs of the post-START era while maintaining deterrence in the face of evolving capabilities that continue to threaten our existence. Given this requirement, we must continue the phased modernization program laid out by the President for U.S. strategic forces.

In practice, an enemy's belief in our deterrent capabilities is based on his perception that we have both the forces and the will to carry out a devastating retaliatory strike. The strategic Triad of manned bombers, intercontinental ballistic missiles (ICBM), and sea-launched ballistic missiles (SLBM) is the foundation of this perception. Individually, no leg of the Triad represents an ultimate capability or deterrent solution; collectively, they complicate enemy attack planning, denying any chance of a successful debilitating strike. The Triad provides a high confidence barrier against technological breakthroughs, system failures, communication limitations, and unforeseeable "fog of war" factors. In short, the Triad ensures sufficient U.S. forces survive an enemy attack to successfully retaliate against an aggressor, thus effectively deterring a nuclear attack.

ICBMs are the most responsive element of the strategic Triad, combining accuracy and high daily alert rates to hold time-urgent, hardened, Soviet warfighting assets at risk. The foundation of our ICBM modernization programs is the Peacekeeper missile. Full operational capability for the first 50 Peacekeeper missiles in existing silos was achieved on schedule in December 1988, and the FY 91 Budget continues development of the rail garrison basing mode. Current plans are to deploy the 50 operational Peacekeepers at 7 garrison locations. Deploying the Peacekeeper day-to-day in secure areas and dispersing it when in the national interest to do so will diversify our strategic forces, while its survivability will enhance deterrence and promote stability. The development of the Small ICBM (SICBM) will continue toward an operational deployment in the late 1990s. This missile's survivability and inherent operational flexibility make it the obvious next step in enhancing strategic stability and deterring nuclear war.

Bomber modernization, through deployment of the B-1B and B-2 penetrating bombers and transition of the B-52H force to a standoff cruise missile role, will counter existing and projected Soviet air defense improvements. Each aircraft has an essential and diverse mission. Cruise missiles launched from outside defended areas, B-1Bs penetrating at low altitude and high speed, and B-2s penetrating at

high and low altitudes will severely stress the Soviet air defense system.

The final B-1B was delivered ahead of schedule in April 1988. Since then, flight test activities have revealed deficiencies in the basic design of the defensive avionics system. The Air Force is proceeding with a two-tiered recovery plan which will correct these deficiencies and field a stand-alone radar warning receiver.

The contributions of the bomber force--and the B-2 in particular--to the Triad will increase in the future. Without the B-2, the bomber force would atrophy, thus depriving us of its unique attributes. Bombers enhance the survivability of land-based strategic forces and offer a unique capability not shared by current ICBM or SLBM forces for signalling U.S. resolve in a crisis. The B-2 provides the best combination of accuracy and weapon yield of any current or projected system in the Triad. Together with greatly increased "look before shoot" capability compared to other bombers, this makes the B-2 the most efficient and effective system for dealing with both very hard and area targets. Manned bombers are regarded by both the United States and Soviet Union as systems that enhance the stability of the strategic balance, because they provide an assured retaliatory capability without posing a first-strike threat. Due to the bomber counting rule under START, the penetrating bomber provides the means to assure adequate target coverage--thus the B-2 is the key to long-term military sufficiency under START and a bulwark of the current U.S. negotiating position. The B-2's capabilities will ensure the continued viability of a balanced nuclear Triad for decades to come.

The B-2 program is currently in its flight test phase. The first aircraft flew in July 1989, and the test plan has continued on schedule. We have completed the first phase of the flight test program, logging more than 31 flight hours on eight test flights. The test program has been an unqualified success to date. The development cost of the B-2 has been substantially higher than the B-1B, reflecting

the major technological advances involved; however, the production cost is expected to be only modestly higher, in constant dollars. To give this cost issue some perspective, the contribution of the B-2 to the strategic Triad should be considered. In terms of acquisition cost per generated warhead, the B-2 cost is similar to the B-1B.

Cost comparisons between elements of the nuclear Triad, however, cannot account for the unique flexibility for power projection offered by the manned bomber. Long-range bombers, staging from secure bases, can reach any location on the globe within hours, employing only a single aerial refueling. These bombers can deliver dramatic firepower with precision accuracy. In a notional Southwest Asia scenario, a squadron of conventional bombers could be projecting power and enhancing presence in a very short time (and at lower cost relative to other options). The B-2's survivability and range will enable it to operate with fewer supporting aircraft (defense suppression, air superiority, etc.) than required for a strike package using non-stealth aircraft.

Tactical Forces

With the continued support of Congress, our tactical air forces must remain a highly capable, modern, and ready force. They must be ready to respond to technologically improved threats, not only in Europe, but anywhere on the globe. To meet this challenge in an era of constrained funding, we will begin reducing our fighter force structure in FY 91. We will partially offset the reduced force structure by modifying current inventory aircraft to increase capability, maintainability, and service life. We are also developing future weapon systems with a close eye on procurement, operating, and support costs to provide an effective but affordable force. Through modification programs and cost control measures such as these, we are leveraging our investments, enabling us to field a ready and capable tactical force.

Two high-priority programs--ATF and the Advanced Medium-Range Air-to-Air Missile (AMRAAM)--are required to maintain a technological lead in order to achieve air superiority. Since the advent of modern airpower, no major surface operation has ever succeeded without air superiority. The ATF will incorporate low-observable technology, supersonic cruise and maneuver, and advanced avionics to yield lethality and survivability required to meet future threat systems. The ATF's planned initial operational capability (IOC) is in the late 1990s. The AMRAAM, now in low-rate production, is undergoing an extensive test program. The test program is scheduled for completion in time to support a full-rate production decision later this year. This missile with improved resistance to electronic countermeasures (ECM) will provide a launch-and-maneuver, multiple-kills-per-engagement capability necessary to combat advanced threats while sustaining minimal losses.

Modernization efforts continue in ground attack forces as well. The F-15E reached IOC in 1989, an important step toward filling urgently required all-weather deep penetration capability. The LANTIRN navigation/targeting system also reached IOC in 1989, enabling F-15Es and F-16C/Ds to conduct night surface attack interdiction missions. This capability will deny any adversary's forces the sanctuary of the night, reduce attrition, and increase the effectiveness of our surface attack operations.

The Air Force also actively supports the Navy A-12 development program and has programmed funds for the development and production of an Air Force variant, the Advanced Tactical Aircraft (ATA). Projected target and threat characteristics by the year 2000 dictate our requirement for a greatly improved surface attack aircraft. The ATA will satisfy this need.

The Air Force has requested funds to procure 150 multi-role F-16s in FY 91. This aircraft provides a solid example of the strength of the Air Force's approach to building combat capability: its mission-capable rate is above 85 percent, and the

F-16s now being procured will enjoy night/under-the-weather attack and all-weather air superiority capabilities.

The Air Force places a high priority on close air support/battlefield air interdiction (CAS/BAI). The A-7D and A-10A, are unable to meet the Joint Force Commanders' requirement for CAS/BAI in the mid 1990s and beyond. Therefore, we have funded interim programs to modify 225 A-10s and 146 Block 30 F-16s with improvements that enhance their CAS/BAI capability. However, these are interim solutions until a follow-on aircraft with the flexibility and capability to conduct battlefield air attack over the modern battlefield is selected and fielded.

Mobility Forces

Strategic airlift provides the United States with the capability to project influence and forces quickly and decisively throughout the world, a capability of increasing importance as we reduce our forward deployment posture and global instability and uncertainty remain. Their ability to carry troops and/or cargo, air refuel, and airland or airdrop their loads reduces dependence on forward-basing, while retaining the ability to meet almost any military or civil requirement. Clearly strategic airlift is a national asset whether employed in support of military operations such as Just Cause in Panama, or as part of humanitarian efforts providing relief following natural disasters such as Hurricane Hugo.

The effective and efficient movement of forces requires achieving a balance between airlift, sealift, and prepositioning. Given the magnitude of force withdrawals under consideration (in several areas, not just Europe) and the scope of the uncertainty we face in unpredictable areas around the world, airlift and sealift must be viewed as complementary. While increased warning time for a European conflict may allow us to use more sealift to return forces to Europe, it does not obviate the need for airlift. Increased warning time does not necessarily produce a corresponding increase in reaction time. As uncertainty and instability

around the world increase, the ability to respond quickly becomes even more important.

Airlift provides vital speed, flexibility, and timeliness. When an operation needs to be carried out quickly--as was determined necessary for Just Cause--airlift will be the key player. Yet we cannot be complacent that our ability to execute quickly to Panama tells the whole story. For Just Cause we had a highly developed infrastructure in theater, over half the forces in place, deploying forces that travelled lightly--even for light forces--and a destination that was relatively close. Next time, the challenge may be tougher, but the requirement for timeliness will be just as great. The 1973 Arab-Israeli War provides an example of the importance of timeliness, particularly for our more uncertain future world. Sealift delivered 74 percent of the total resupply of Israel--but the war was over five days before the first ship arrived. The key to airlift's critical contribution to the Israeli success was not Millions of Ton Miles/Day, but delivery of key assets when they were critical to the fight.

The C-17 is vital to modernizing and expanding the nation's airlift capabilities. The C-17 will assume the responsibility as our primary strategic airlift aircraft when fully operational--a role currently filled by the aging C-141, which is approaching the end of its service life. The C-17 offers much lower support costs than either the C-141 or C-5 and combines the advantages of a strategic airlifter--range, speed, aerial refueling, and payload--with those of a tactical airlifter--short field landing and take-off capability, survivability, maneuverability in the air and on the ground, and precise, prompt delivery. The advantages this affords can be seen using 1983 airlift support missions to Honduras as an example. Two C-5s and 32 C-141s delivered cargo to the only airfield in the country capable of supporting these strategic airlifters and an additional 232 C-130 sorties were needed to transfer this material to smaller airfields closer to employment locations. Using the C-17 to deliver cargo from the United States directly to the smaller airfields would only have required 19 aircraft.

Our tanker fleet will also become of increased importance to support the global reach and combat capability of all the Services. Air Force tankers provide the capability to refuel Air Force, Navy, Marine, and many allied aircraft leveraging all Service capabilities on land, sea, and in the air. Aerial refueling increases the range, loiter times, and ordnance capabilities of receiving aircraft--true force multiplication. To bolster our refueling capabilities, we are continuing to re-engine KC-135s (which enhances KC-135 fuel offload potential and reduces annual operating costs) and are adding multipoint capabilities (that is, the capability to refuel more than one aircraft at the same time) to elements of the KC-10 fleet. Multipoint refueling multiplies the effectiveness of tankers providing assistance to the Navy and Marine Corps as well as our allies.

Space

U.S. military space capabilities contribute to our deterrence strategy in a variety of ways. Satellite early warning capabilities warn of Soviet space and missile launches, prevent surprise attack, and allow the United States to determine the appropriate response to Soviet actions. Space surveillance systems track, categorize, and assess the capabilities of all space objects. Space-based communication systems, such as Air Force Satellite Communications (AFSATCOM), the Defense Satellite Communications System (DSCS), and in the future, Milstar, ensure effective, rapid communications with U.S. strategic and tactical forces throughout the world. Other capabilities like the Global Positioning System (GPS) and Defense Meteorological Satellite Program (DMSP) enhance the effectiveness of our forces by providing navigation and environmental monitoring information, respectively. Finally, space systems also contribute to arms control by providing monitoring capabilities that enable us to confidently enter into verifiable agreements.

The U.S. satellite payload schedule was delayed in the late 1980s due to the Shuttle and Titan accidents. This on-orbit capability in space is essential to our

national security. The Air Force scheduled recovery launch rate peaks at approximately 25 in 1990, but we will not be able to launch all of the backlog of satellites until 1992.

The Advanced Launch System (ALS), a joint DOD-NASA program, had been identified as our future national space launch capability. Recent fiscal restructuring during the FY 91 Budget development required the Air Force to defer the initiation of FSD of an ALS vehicle, but technology development will continue under the Advanced Launch Technology program, intended to transfer technology to the existing boosters and lay the basis for future development of a new vehicle.

The National Aero-Space Plane (NASP) is also a joint DOD-NASA undertaking. The Air Force has program management responsibilities for the NASP. The program will develop the technologies needed to allow a decision on whether to develop a classic X-vehicle that would demonstrate the capability of single-stage-to-orbit with horizontal takeoff and landing and long-range hypersonic cruise.

Conclusion

The FY 91 Budget marks a year of transition. The Air Force has developed a program that will sustain a high level of readiness while permitting us to continue priority modernization programs. Overall, the FY 91 Budget will also position the Air Force to realize significant future cost savings through post-FY 91 reductions in force structure and forward basing. But the Air Force's focus is on evolving U.S. national security needs--not simply on fiscal constraints, though they too are real. The Air Force is building a force with agile and responsive capabilities tailored for the world we see unfolding before us. We will continue developing these capabilities in the 1992 POM and beyond, planning the "pieces" of our Air Force to complement each other and the forces of the other Services, while

creating optimum power under a wide variety of possible circumstances.

The Air Force possesses unique capabilities which must be harnessed, along with those of the other Services, to address the exigencies of evolving national security policy. We see a window of opportunity to make ourselves more useful to the Nation. With the Air Force's global reach and rapid reaction, we are prepared to meet the challenges of the future.

[The reports submitted are retained in the committee file.]

Chairman NUNN. Thank you very much, General Welch. General Gray.

STATEMENT OF GEN. ALFRED M. GRAY, COMMANDANT, U.S. MARINE CORPS

General GRAY. Thank you, Mr. Chairman, and we too have prepared a statement that we would like to have entered into the record.

Chairman NUNN. Without objection, it will be part of the record.

General GRAY. We also have prepared a Concept and Issues book, Mr. Chairman, that hopefully will explain where your Marine Corps is today and where we intend to be in the year 2000; for use by your committee and the staff.

Our own vision of the world around the end of this century would include continuing movement; rapid change throughout the Eurasian land mass, hopefully settling down somewhat 4 or 5 years from now; great instability though in the near term in these countries, both in Central Europe and in Central Asia, with all of the challenges they will pose for the Western world and, the NATO alliance.

We would see continuing turmoil and potential for conflict throughout the Middle Eastern area. We hope that further vacuums would not occur on the great continent of Africa because of the many precious minerals and resources that are there. These minerals, I believe, a. ong with the resources elsewhere in the lesser developed regions of the world, are crucial for our great Nation and the free world to survive, and perchance, flourish economically.

We see a lot of conditions for instability still in the Latin American region and certainly in the Far East and Asia. We note the emerging renaissance of interest in the Pacific region, with the Pacific rim already providing more trade in that area than Europe.

And so, against that backdrop, it would seem that the structure of your Marine Corps is consistent with the intent and vision expressed by the 82nd Congress, which enacted legislation to provide for three Marine Division Wing Teams in the Active force and one in the Selected Marine Corps Reserve.

These three Marine expeditionary forces are in being today. It would be my recommendation that we maintain this structure throughout the end of this century and into the next.

Three Marine expeditionary forces in the active structure is as low as you can go while still being responsive globally to the wide spectrum of maritime type contingencies and the wide spectrum of special requirements that will undoubtedly come our way throughout this decade.

There are some uncertainties. We do not know, for example, how many embassies and consuls we will be required to protect in the year 2000. I would suspect that it will be more than today. This has been our experience during the last 6 years as democracies have emerged. We have grown from 93 to 143 locations, so we have to keep this in mind.

Similarly, in 79 locations around the world, we provide special Marine Corps security forces, not only in well known places like Subic Bay, Philippines, Keflavik, Iceland and Guantanamo Bay, but in many other parts of the world.

We do not see too much of a change there, with respect to our global requirements; although we could possibly come down a few bases. There is much concern about whether we will lose our bases in the Philippines. If that happened we might need three or four additional locations to replace that capability. You would however, not replace the strategic or geopolitical advantage of being able to operate, train and maintain presence in the Philippines.

These uncertainties have to be folded into the equation. Your Marine Corps today, is fully prepared for a wide spectrum of special operations; and, we have oriented, as you know, on the mid to low intensity part of the spectrum.

We have to be prepared perhaps more now than ever, for the entire spectrum. As Senator Warner says, you must be able to put it all back together. As we finish the draw-downs in Europe, and as we complete the phases that we are working out now, you will see that Naval power and Marine expeditionary forces will become even more important for General Galvin in terms of immediate capability and credible deterrence. This is true because we will remain, as we have since the formation of the alliance, the strategic reserve in that region.

The balance is about right. Somewhere in the neighborhood of 190,000 marines is the figure I would like to see our Corps maintain at the end of this century. We can go down some more; and, as always we will take the kind of resource allocation we are given and we will give you the kind of Corps the Nation needs.

I believe that 180,000 to 190,000 marines is a time tested framework which is needed to respond to the kind of conflict which we will face in the future.

We will continue to complete our efforts to mold efficient, effective, small, independent action forces for low intensity conflict and for special operational requirements.

We will put the finishing touches on insisting that your marines are commando forces, second to none. We will continue our efforts for the best training, the best education, the best leadership and the best discipline, particularly self-discipline that the Nation expects from her marines.

We believe that we will be required over time to meet a broad spectrum of stability operations, civil affairs and other related actions. We are fully prepared to continue to complement the Na-

tion's special forces capability. We are prepared to do more and have an even more synergistic relationship with the unified commanders and the Commander in Chief of the Special Operations Command, should that be desirable.

The requirement for a Naval and maritime, Marine expeditionary force capability, will not go away. We have that capability today. We will give you that capability into the year 2000.

It seems to me that being a maritime Nation, we certainly must have a seapower capability, in addition to the other power requirements spoken to this morning.

Finally, I would like to make one suggestion: I believe that there is a certain amount of military power that must be part of the national power equation of a great Nation. We will continue to be a great Nation and a world leader. I do not think that is reversible.

Therefore, whatever that capability is, whatever that military need is determined to be, it has to be credible to ensure superpower status. This is not only in the interest of our country, but in the interest of the free world as we know it today.

Thank you very much, sir.

[The prepared statement of General Gray follows:]

PREPARED STATEMENT OF GENERAL A.M. GRAY

COMMANDANT OF THE MARINE CORPS

Thank you for this opportunity to report to you on the posture of your Marine Corps. This is the third report I have been privileged to present to Congress.

The past year has given the free world reason for optimism. History is likely to record 1989 as the year the West achieved a "victory" in the Cold War. It is a victory for all who have served in the defense of this Nation, and more importantly, a victory for all who believe in the fundamental rights of every man. Our foreign policy of containment provided the framework for this victory, while the forward presence of our Armed Forces ensured it. Today, we are encountering many of the same challenges of economic reality and defense concerns our Nation faced at the end of World War II. During that period, we allowed the budget rather than strategy to shape our military. We paid dearly for this flawed approach in June of 1950 when North Korea crossed the 38th parallel and invaded South Korea. Virtually overnight, our Nation was faced with reversing a five year trend of conventional force disarmament. The reality was that five years of force reductions limited our ability to respond quickly. We recovered, but only after three years of conflict and the loss of 33,629 American lives. We should not casually dismiss this lesson in our history as we ponder today's challenges.

Soviet Threat

As we formulate strategy, we must acknowledge the unpredictability of our world. The Soviet Union and its alliances may be unravelling, but neither ideology nor nationalism is dead. We must remember that the Soviet Union remains a military superpower, capable of threatening our way of life. It has not abandoned its client states, although its influence may have diminished. Paradoxically, we may no longer be able to count on the stabilizing influence of the Soviet Union, and its ability to reign-in renegade surrogates. While we must respond to the changing military balance in Europe, and to an anticipated decreased threat from the Soviet Union, we must remain sensitive to the potential instabilities that these conditions have precipitated. As Europe transitions to a new era, it will face difficult political and economic challenges which could contribute to these instabilities. We can only

speculate on the outcome, but relatively recent instability embroiled the world in two wars within a period of less than thirty years. While our National Military Strategy remains solidly based on deterrence and forward defense, we must consider how it will be influenced by the changes in Europe and elsewhere in the world.

Regional Threat

As we reassess the threat, it becomes apparent that any number of regional powers with competing ideologies, cultures, and nationalistic aspirations could threaten our global interests. These regional powers, either present or emerging, provide our most likely sources of conflict. They have the potential to trigger a United States military response to protect our vital interests. We can expect these nations to have sophisticated high-technology weapons, to include weapons of mass destruction, and well trained armies. They need not be superpowers; North Korea, Iran, Libya, Cuba and Nicaragua are cases in point. Our interests in stability and our support for our friends and allies around the world illustrate the need for a military capability broader than the defense of our homeland.

Our economic health and well-being, and that of our allies, depend on international trade and unimpeded use of the seas. The United States' dependence on world trade has risen from $16.3 billion in 1960 to $460 billion in 1988, and our reliance on other nations for oil and critical mineral imports continues to increase. These interests can be threatened at several critical points throughout the globe. The four geographical areas which I believe offer the most potential for future conflict are the emerging nations of the Pacific rim, the mineral rich nations of Africa, the volatile nations of the Middle East, and the turbulent nations of Latin America. All of these areas are currently dealing with active insurgencies which potentially threaten our interests and those of our allies. Latin America, for instance, is embroiled in wars against narco-terrorism and insurgency. Its proximity to the U.S. border makes it an area of immediate concern.

Strategy

Our future strategy should be based on our ability to respond to a wide variety of threats. The issues are complex and they increase the need for wisdom and a long range perspective in our decisions. We must retain the ability to respond to unforseen crises, or be content with the role of casual observer. Weakness, real or perceived, invites attack or

at least abuse. Military strength takes considerable time and capital to build. We cannot allow ourselves to regress to an era of budget driven strategy. Rather, **our strategy must be firmly based upon our enduring national interests and an assessment of the threat to these interests.** We must, therefore, consider all elements of the equation simultaneously, and not focus on the most obvious one: improved relations with the Soviet Union and the subsequent reduction of the Soviet threat.

As a maritime Nation, we cannot dismiss our geography and the unique requirements it imposes. We are dependent on the free use of the Sea Lines of Communications and access to the natural resources of the world for our economic and security needs. For the past forty years, **we have been a maritime nation with a continental strategy, while the Soviet Union, a continental nation, pursued a maritime strategy.** The changes in the international security environment provide a golden opportunity for us to reassess our position, take advantage of these changes, and pursue our goals in a manner consistent with our national character. **Today's corollary to yesterday's "keep your powder dry" is "keep your Naval forces at sea."**

Naval Force Requirements

Geography and today's international political climate validate the requirement for naval forces. Since World War II, naval forces have responded to **over 80 percent** of all international crises. Given the political and economic densities of the world's littorals, we can reasonably expect that the majority of international crises will continue to occur in areas accessible from the sea.

We are facing a future where access to overseas bases and support for forward based forces is decreasing. Deterrence and forward defense under these conditions puts a premium on capable, mobile, logistically independent naval forces able to demonstrate U.S. presence and power projection capability on the horizon of all but a handful of countries. Naval forces operating in international waters provide our decision makers with a **"sheathed sword."** They can be positioned off the coast, either over the horizon or in full view of a potential adversary, to convey our National intent. They are a visible representation of America's willingness to resolve a crisis diplomatically or politically, but also indicate that, as a last resort, we will **"draw our sword"** and respond militarily. The fact

that the overwhelming majority of crises to which naval forces have responded since 1945 were resolved without military intervention further underscores the deterrent value of naval power.

The Corps

A unique characteristic of United States naval power is the inclusion of a completely integrated, air-ground, force-in-readiness -- the United States Marine Corps. We are a combined arms force designed to provide the Nation a ready crisis response capability. When required, we are capable of forcibly projecting and sustaining combat power into a hostile region.

Following enactment of the National Security Act of 1947 which set forth the composition and functional responsibilities of the armed forces, your predecessors in these halls met again in 1952 to define more specifically the roles of the Services. The record of those hearings provides insight into the intent of Congress, as it viewed the need for a Marine Corps, and the wisdom in the deliberations which took place concerning it. Our legislators envisioned a force of combined arms in the active structure which, in partnership with the Navy, would provide the ready, expeditionary forces necessary to protect U.S. interests abroad. Being naval in character, yet oriented in function to the land and air, such a force could operate with the fleet around the world. This force would be independent of the requirements for overseas basing, yet able to provide the complete spectrum of response to "...minor international disturbances." The lawmakers envisioned, beyond this purpose, that such an organization would be available for other "...duties as the President may direct." For almost forty years, these requirements have been the blueprint for your Corps' strategic, operational, and program planning efforts.

Today, forces of combined arms are formed from the resources contained within our divisions, aircraft wings and support units into **Marine Air-Ground Task Forces (MAGTFs).** These unique, flexible, formations range from small Special Purpose Forces to large Marine Expeditionary Forces of 50,000 or more personnel. **MAGTFs can be configured as light, air transportable, self-sustaining expeditionary forces; as powerful assault forces capable of employment from amphibious shipping; or as mechanized forces to be flown to, equipped**

from, and sustained for an extended period by our Maritime Prepositioning Ships Squadrons. All MAGTFs have inherent special operations and low-intensity conflict capabilities that are continually being enhanced. After a demanding comprehensive training and certification program, our forward deployed MAGTFs are designated special operations capable. Each forward deployed MAGTF is capable of time-compressed planning, and is required to be ready to commence mission execution within six hours of receipt of its mission.

We provide each of the warfighting CINCs with an array of force employment options that take full advantage of our capabilities and multiple means of deployment. Marines embarked aboard our Navy's amphibious ships provide a **self-sustaining, forcible entry capability which can be flexibly sized to mission requirements.** As our access to overseas bases and overflight rights decreases, our reliance on this capability for crisis response will become even greater. Shortly after the turn of the century, however, **over 50% of our current amphibious ships will reach block obsolescence.** We must have your support for a vibrant amphibious shipbuilding program, otherwise, our Nation's ability to maintain forward presence around the world and to project and sustain power, when needed, will be severely reduced.

We can also deploy MAGTFs by airlifting Marines, helicopters, and tactical aircraft to locations where they can be aligned with either the Maritime Prepositioning Ships (MPS) or our prepositioned equipment and supplies in Norway. In the first case, a brigade of Marines, as large as 17,000 personnel, 60 helicopters, and 70 tactical fighter aircraft can be deployed by strategic airlift to link-up with one of the three squadrons of Maritime Prepositioning Ships along the littorals of the world. Fewer than 250 C-141 equivalent strategic airlift sorties are required to deploy the entire force. To deploy this same size force, together with 30 days of sustainability without these strategically mobile, floating warehouses, would require approximately 4,500 sorties. This would severely tax our strategic airlift resources. The MPS brigades can be deployed, linked up with their equipment, and ready for employment in under 10 days. This unique strategic mobility enhancement and force deployment option is afloat now. It is an extraordinary program, set into motion a decade ago, and available today. Its readiness is maintained by regularly

scheduled exercises conducted around the globe. In a quantitative sense, the three squadrons of Maritime Prepositioned Ships, strategically disposed in the Indian Ocean, Western Pacific, and Atlantic Ocean enable the nation to deploy at a cumulative cost of under 750 strategic airlift sorties, 51,000 Marines, 180 helicopters, and over 200 tactical aircraft in response to a crisis, regional conflict, or war. We are continuing to refine the structure of these Maritime Prepositioned Forces to provide increased flexibility when a force of less than brigade size is required.

In 1980, to strengthen the defense of NATO's vital northern flank, the United States earmarked a brigade of Marines for reinforcement of this region. The supplies and equipment for the brigade are stored in underground storage facilities in Norway. A MAGTF of approximately 13,000 Marines can be airlifted to join with this equipment and be ready for operations in just ten days.

The third dimension of our crisis response capability, or our ability to reinforce rapidly our forward-deployed amphibious forces, rests in our three Marine Air Contingency Force packages which are on ready alert throughout the world every day. These forces are light brigades, poised for world-wide deployment via strategic airlift, beginning within four hours of notification. They are a means of deploying Marine forces rapidly to a crisis, or of rapidly expanding the capabilities of amphibious or maritime prepositioned forces already committed.

The Nation has at its call today a Corps capable of service at sea, on land, or in the air; a Corps highly trained, well equipped, with high levels of sustainment, completely integrated as an air-ground package, and not dependent upon the mobilization of a single Marine to respond to crisis or meet its wartime commitments. With a combination of amphibious ships, Maritime Prepositioning Ships and land prepositioning, and strategic airlift, **you can deploy the Corps where you need it, and when you need it - NOW!**

Current Operations

The past year has once again been a period which validated our aggregate utility and our focus on low-to mid-intensity conflict. Marines responded to crises throughout the world in Lebanon, Panama, and the Philippines. Naval forces responded to crises in

Lebanon on two occasions. The Lebanese Civil War in February and the Hostage Crisis in August of last year found Marine Expeditionary Units, with special operations capabilities, as part of a Naval Task Group poised off the coast for potential evacuation operations. Two years ago, Marines deployed to Panama in April of 1988 to augment the Marine Security Force ashore at the canal. In May of last year, following the violent election campaign in Panama, a company of Marines with their Light Armored Vehicles were deployed to reinforce U.S. forces. Finally, in December of 1989, all of these Marines participated in Operation Just Cause.

Perhaps the most visible representation of the utility of naval forces was the crisis response to the recent coup attempt in the Philippines. Four Marine combat elements responded immediately. The 9th Marine Expeditionary Brigade was already enroute to the Philippines to participate in an exercise. Marines from the brigade were flown in to augment the security forces at the Naval Base in Subic Bay. A Marine Expeditionary Unit, embarked aboard ships of the U.S. Seventh Fleet, was standing by off the coast and prepared for operations. A company of Marines from the Marine Corps Security Force at Subic Bay reinforced the Marine security guards at the American Embassy **within minutes** after the coup attempt. Finally, an Air Contingency Force of 2,000 more Marines stood by on **four hour alert** on Okinawa ready to deploy by airlift to the Philippines if required.

Last year also saw Marines involved in the fight against the flow of illegal narcotics into our country. Aviation, intelligence, and ground reconnaissance support was provided to Law Enforcement Agencies operating in the Caribbean and along the southwest border. Marines working closely with the Drug Enforcement Agency (DEA) train their agents before they deploy to South America, and assist DEA in planning its active operations. These activities concentrate on the supply side, but perhaps even more important, we are attacking the demand side of the equation with equal vigor. Active duty, reserve, and retired Marines were and remain actively involved in youth anti-drug education programs throughout the country. Our work with federal, state, and local law enforcement agencies, both in law enforcement and social service, has forged a formidable partnership in support

of our President's goal for a drug free society. At home, Marines assisted with humanitarian relief efforts following Hurricane Hugo, the San Francisco Earthquake, and participated in the Alaskan Oil Spill cleanup operation.

The diverse missions accomplished by Marines throughout the past year illustrate the broad utility of the Corps to the Nation in any form of crisis. The day-to-day high level of readiness of all Marines enables us to concern ourselves with the question " How quickly can we get there?" and not," Are we ready to go?" Whether via amphibious shipping, strategic airlift, prepositioning, or a combination of all three, **Marines can respond to a crisis with the combat power required, and equally as important, the sustainability to win.**

Service Planning

As a Military Service, our responsibility is to provide forces to the combatant commanders that are structured, trained and equipped to meet their needs. Using the direction contained in National Security Decision Directive 219 and the mandates contained within the Goldwater-Nichols Defense Reorganization Act of 1986, **our planning process is driven by an assessment of the threat, a review of the national strategy, and the identification of operational requirements needed to execute our strategy.**

Using the foregoing planning process, we have completed three of the plans which will guide our Corps into the 21st century. The first, the Marine Corps Campaign Plan, provides a common direction to Fleet Marine Forces and the supporting establishment. It focuses our policies, programs, and studies to meet long term and contingency requirements. The second, the Marine Corps Long-Range Plan, projects Marine Corps concepts, capabilities, and goals 10-20 years into the future. The third, the MAGTF Master Plan, focuses on operational concepts and requirements at all levels of employment through the year 2000. The Master Plan places an increased emphasis on low- to mid-intensity conflict. Using the goals initiated in the long-range plan, it establishes priorities for mid-term operational requirements. This plan is the cornerstone of our planning, programming, and budgeting actions.

The Marine Corps participates fully in the Department of Defense's collective planning efforts throughout our own planning process. All that we do to build, train, deploy, employ, or sustain our operational forces is done in coordination with the Department of the Navy,

the Joint Staff, the Office of the Secretary of Defense, and the combatant CINCs. To be specific, the Marine Corps' Service planning process is fully integrated with, and responsive to, both the Joint Strategic Planning System and the Planning, Programming, and Budgeting System. For example, the Marine Corps Long Range Plan and the MAGTF Master Plan are designed to interact with the development of National Military Strategy, the Defense Planning Guidance, and the Program Objective Memorandum. Each document is designed to be responsive to change in the security environment to include the threat, National Military Strategy, and fiscal realities.

The benefit from this revised process is an identifiable linkage, traceable from strategy, through Service planning, down to the capabilities and expenditures for specific programs. Our planning drives the six primary elements which contribute to our warfighting capabilities: doctrine, structure, equipment, manpower, training and education.

Innovation

Our maneuver-oriented doctrine reflects an understanding of the operational requirements of modern warfare. The diversity of threats requires a doctrine which addresses the wide range of combat situations that Marines will likely face. Fleet Marine Force Manual-1 (FMFM-1), Warfighting, published last year, is the first of our keystone doctrinal publications. It articulates our operational philosophy and provides the authoritative basis for how we fight. It provides not just guidance for combat actions, but, more importantly, a way of thinking about combat in general. Warfighting is the philosophy for our profession of arms. This year, it will be complemented by the publication of: FMFM 1-1, Marine Corps Role in National Defense, FMFM 1-2, Campaigning, FMFM 1-3, Tactics, and FMFM-2, MAGTF Operations. As long as Marines are well trained in fundamental individual and unit skills, and leaders have been conditioned to adapt quickly, improvise, and act based on their estimates of the situation, the Marine Corps will measure up to our Nation's requirement for military flexibility and readiness in an uncertain world.

As in the past, your Marines will continue to use our warfighting philosophy as the basis for innovation in doctrine, tactics, techniques, and equipment development. Implicit in our mission as a force-in-readiness is the requirement to update our warfighting structure

and operational requirements. By studying the security environment and anticipating change, we have been able to identify requirements, sometimes before they were realized or commonly accepted, for the doctrine, operational concepts, equipment, and techniques needed to meet evolving strategic and tactical needs. Responding to the requirements of expeditionary warfare, Marines took the lead in the development of amphibious doctrine and equipment, close air support techniques and aircraft to include vertical take off high performance jets, the helicopter, the vertical assault concept, the Light Armored Vehicle, and sea-based prepositioning.

Recognizing that threat conditions are changing, we have responded by refining our structure to be more responsive to the new security environment. These actions have resulted in several enhancements to our MAGTF structure, doctrine, and equipment. For example, we have been working in partnership with the Navy toward an improved ability to project forces more rapidly over extended distances. The ability to **project power from over the horizon**, bypassing first line enemy defenses to insert forces deep to inland objectives, is an operational maneuver requirement needed to meet the warfighting needs of our Nation well into the 21st century. Over-the-Horizon operations will dramatically expand the number of areas into which we can project power, provide tactical surprise, and allow us to fully exploit our warfighting enhancements.

MAGTF Enhancements

Building on the achievements of the last decade, **we have enhanced our capability for low- to mid-intensity conflict.** Our efforts enabled us to improve the **existing capabilities** of our MAGTFs without adding manpower. Using a bottom-up approach, we began with the basic infantry squad and concluded with the development of the requisite support functions needed to maintain and sustain our MAGTFs in combat. While fiscal constraints have forced the cadre of three infantry battalions (3000 Marines) in 1989, we have been able to develop an optimal and flexible infantry battalion structure as the building block for all force structure and manpower initiatives.

We have enhanced our infantry battalions. Selective additions have improved their mobility, firepower, and sustainability. We have added a fourth maneuver company to our infantry battalions to improve their flexibility and reconnaissance capability. Similarly, each

of our reconnaissance and combat engineer battalions have been improved by the addition of a fourth company. In addition, Scout Infantry have been added to our Light Armored Infantry battalions. We are also improving our existing Civil Affairs and Psychological Warfare capabilities. These changes have been accomplished in part by reducing heavier units from our active structure and moving them to our reserves, and by streamlining our command elements and combat service support units. These adjustments have improved the ability of our expeditionary forces to control and influence larger areas while employing Marine tactics that have previously been proven to be relevant to today's low- to mid-intensity threat environment.

The intelligence gathering, analysis, and dissemination capability of our MAGTFs has been dramatically improved with the creation of a Surveillance, Reconnaissance, and Intelligence (SRI) Group. The SRI Group consolidates these critical capabilities, and links the MAGTF's command element to national intelligence systems. This capability, together with its resident air, ground, and logistics elements, has enhanced our ability to provide a rapidly deployable Joint Task Force headquarters to the CINCs. Simply stated, we have sharpened our teeth and shortened our tail with enhancements made from within our existing force structure.

Research, Development and Acquisition

We have traditionally looked to the future for innovative ways to improve existing capabilities and develop new ones. A streamlined and more responsive research development and acquisition process has made it possible to place the best equipment in the hands of our Marines in the shortest time. Our priorities in Research, Development, and Acquisition programs are based on the procurement of systems necessary for projecting forces from the sea, onto the land, from distances well beyond the horizon. Our intent is to increase our ability to operate with added mobility and flexibility. The same vehicles used to project forces ashore must become our tactical mobility vehicles for operations on land. Our foremost priorities are: a medium lift helicopter replacement, an advanced amphibious assault vehicle, and more lethality and capability for our light armored vehicles.

Medium Lift Replacement

No Marine Corps requirement is more pressing than the need to identify a solution

for the replacement of our medium lift assault capability. The aging CH-46 helicopter is entering its 26th year of service life. While it has served us well, we can no longer expect it to carry Marines in harm's way on the modern battlefield. Precision guided munitions and hand-held surface-to-air-missiles place these thirty year old helicopters and the Marines they carry at risk. The decision to cancel MV-22 procurement has caused us again to re-examine available alternatives. This process is currently ongoing. Critical to our requirement is that any replacement must include the capability to:

- execute explicit strategic surprise and deception
- execute true over-the-horizon-operations
- deliver a rapid concentration of forces
- extract and redeploy forces at critical times
- enhance force survivability
- navigate and communicate at night and in adverse weather conditions

Having stated this requirement as our most pressing need, I should mention that whatever alternative is adopted, it will not be inexpensive. We urgently need to identify and procure a medium lift assault air-frame which will survive the threats, provide the needed mobility, and be able to remain in service well into the next century. I can assure you that our reputation for frugality will not be tarnished in this effort and that the weapons systems we identify will be both mission capable and cost effective.

Advanced Amphibious Assault Vehicle

To complement our vertical assault capability, we are pursuing the development of an Advanced Amphibious Assault Vehicle. This program is critical to gaining a true over-the-horizon power projection capability. The High Water Speed Technology Demonstration Vehicle has validated the concept of producing an amphibious vehicle capable of rapidly moving the elements of the MAGTF from amphibious shipping located over the horizon to inland objectives.

Ground Combat

Our ground combat capability was improved by the Soldier-Marine Enhancement Program of last year. Funds were provided for the continued development and

procurement of more lethal infantry weapons and improved "soldier items" to include lighter, more comfortable load bearing equipment, field gear, survivability items, communications equipment, and navigation aids. This important program enhanced the warfighting capability of our Marines and is sincerely appreciated.

To expand the operational capabilities of the light armored family of vehicles we intend to continue expansion of this program to acquire an assault gun variant and an air defense variant. This lightweight, readily transportable, highly mobile asset is proving its worth in Panama today. With an expanded capability, it will add tremendously to our ability to operate at any level of conflict, particularly at low- to mid-intensity conflict levels. Recognizing the extraordinary potential of these vehicles, the Army recently requested, and we provided to them, eighteen vehicles to equip a scout element in the 82nd Airborne Division.

Aviation

We are continuing to improve our aviation assets by upgrading the avionics of our fixed wing aircraft and enhancing the night vision capability of our helicopters. To lower operating costs and increase commonality, we are reducing the number of Types/Models/Series of aircraft in our inventory by procuring in-production aircraft to meet our requirements. We will procure the F/A-18, the CH-53E, the AV-8B, and the AH-1W for our active and Reserve squadrons.

C4I2

We are also upgrading our Command, Control, Communications, Intelligence and Interoperable systems to enhance our ability to exchange secure, near real-time tactical information in joint and combined operations. Our new Intelligence Center will be a model fusion center for all-source intelligence, and it will focus on low- to mid-intensity conflict. The center will ensure that the collection and production of intelligence is tailored to the Marine Corps' unique mission requirements.

The Corps' focus on low- to mid-intensity conflict over the past two years has driven us to some major decisions, not only in our procurement plans, but most importantly, in the direction the Marine Corps will take in the next ten years. We have concentrated on those capabilities which will keep us responsive to our Nation's future requirements. This

translates to weapon systems which can get to the fight quickly and influence the battle after they arrive. Heavier and less-deployable systems will take a lesser priority. It was this realignment of our priorities, and the realities of reduced funding levels, which prompted us to terminate the M1A1 procurement.

Manpower

Regardless of the threats which will face our Nation in the future, the military strategies we will develop to deal with them, or the equipment we will invest in to execute the strategy, our ability to preserve our national security will rest, as it always has, on the individual soldier, sailor, airmen, or Marine. Whether in the point squad, the lead airplane, or manning a ship at sea, people are our most valuable asset. They must "stand in harm's way" in complex circumstances on a daily basis. Accordingly, the main effort of our manpower programs and activities will continue to focus on recruiting, retaining, developing, and safeguarding quality Marines.

Where are your Marines?

Sixty-eight per cent of your Marines are assigned to our operating forces. They serve throughout the world with the Fleet Marine Forces (FMFs), with the security detachments on ships, posts, and stations, with the State Department, and with other national agencies and U.S. commands. We demand that these Marines, as well as the remaining 32 percent who comprise the supporting forces, be decisive, self-reliant, and versatile. They are capable of independent action and, when called upon, we expect them to lead in combat. Because of the serious responsibilities and demands we levy on our Marines, we will not compromise our standard of excellence.

Quality

We have recognized for a long time the link between our readiness and the caliber of our recruits. Supported by the resources Congress has provided, our recruiters have answered the call to recruit first-rate Marines. Last year, 95 percent of our accessions were high school graduates with fewer than 1/2 of one percent falling in mental category IV. These Marines are bright, highly motivated, and eager to learn. The Corps' efforts to recruit quality Marines will not diminish.

Retention

We continually are aware of the importance of retaining the quality Marines we work so hard to find and train. We have been successful in keeping most in the Corps, but we must do more to keep quality Marines with critical skills on board. Retention management programs like the Aviator Retention Bonus (ARB), the Selective Reenlistment Bonus (SRB) and duty station incentives are crucial to us. They provide the tools necessary for retaining good, experienced Marines. These programs reduce our dependence upon new accessions, lower training costs, and contribute to stability and unit cohesion.

Total Force

Our emphasis on Manpower quality is enhanced by our commitment to the Total Force concept. The responsiveness and preparedness of our active forces will continue to benefit from the support of the Marine Reserve and our civilian manpower resources. We have taken steps to ensure that the Marine Corps Reserve is adequately structured, equipped, and trained to assume a larger role in augmenting and reinforcing the active forces when employed in high intensity conflict. Similarly, our supporting establishment is highly dependent upon the skills and professionalism resident in the 20,869 civilians for whom we seek funding in FY91. Finally, we will rely more heavily on our retired Marines. I expect all Marines to recognize the value of our retirees and to draw liberally from the experiences and knowledge present within their ranks.

Force Management

The Officer Force Management Review Panel (OFMRP) conducted a comprehensive review of our officer corps this year. The recommendations of the panel have provided us a blueprint with which to validate all of our officer Military Occupational Specialty (MOS) requirements. It also will allow us to correct grade and MOS imbalances and justify some increase in field grade authorizations under DOPMA. These actions will not adversely affect our ability to maintain a healthy officer to enlisted ratio.

Our active duty enlisted Marines are benefiting from the continuing improvement of Enlisted Career Force Controls. These controls are active measures taken to balance the population of first-term Marines with our requirement for Marines of specific grades and

MOS's. The results are standardized promotion timing, some relief from critical MOS shortages, and an appropriate level of experience for each grade.

Quality of Life

Concomitant with readiness and retention are the quality of life programs which affect the lives of our Marines and their families. Our quality of life efforts feature concerned leadership, realistic training, sound education, discipline, including self-discipline, unit cohesion, and a strong sense of taking care of our own. **"Esprit de Corps"** and our leadership philosophy foster a high quality of life which instills values and attitudes which transcend each Marine's actual period of enlistment. In the words of our 13th Commandant, General John A. Lejeune, **"These men are in the formative years of their lives, and officers owe it to them, to their parents, and to the nation, that when discharged from the service they should be better mentally, physically, and morally then when they where enlisted."**

Today, we continue to emphasize the importance of the Marine Family because of the increase in the number of married Marines. I still am concerned about the high cost of living which requires two incomes to maintain the minimum requirements for food, clothing and shelter, and that there are Marines, serving their country, who are living on food stamps.

Maintaining our family housing is critical to our quality of life program. Our facilities maintenance, repair, and construction programs reflect quality of life requirements and the replacement of aging facilities and infrastructure. Whole house rehabilitations of Government Quarters are examples of how we intend to do the most with the resources we have. With your support, we have maintained the quality and availability of our family housing. We are devoting considerable effort to this important area, but the expanding dependent population and our limited resources hold us at the perpetual break-even point.

Our 18 Family Service Centers handled approximately 300,000 contacts last year. We are improving our responsiveness to the needs for relocation and deployment support. With increasing success, the Employment Resource Center program assists spouses in finding employment and assists retiring and separating Marines in obtaining civilian positions.

We are in step with the Military Child Care Act of 1989 regarding child care programs. We have reduced the child to staff ratio in our Child Development Centers and have improved our compliance inspection program. We are planning to expand the Family Day Care program this year through extended certification efforts.

Medical care for our Marines and their dependents remains a high priority. We are still experiencing shortages in the numbers of doctors, nurses, and corpsmen required. The new CHAMPUS Reform Initiative has been helpful in improving timely payments of claims, however, we are still seeing many late payments. I respectfully ask that you continue to monitor and correct the deficiencies in these programs.

Training and Education

We have made significant changes in our training and education programs over the past year. I would like to express my appreciation for the interest and support you have provided. With your help we have achieved a virtual renaissance in training and education throughout the Corps.

We derive our training and education philosophy from the realities of tomorrow's warfare. The improvements in training and education will enable the Marine Corps to quickly respond to changes in the world order, witnessed in the past year and expected in the future. We determined that Marines must be proficient in both the science and art of warfighting. They must be tougher and better educated. The Marine Corps' ability to respond rapidly, to fight and to win, requires enhanced combat training and an enduring professional attitude of every Marine. It is an attitude which recognizes that the study of the profession of arms is a way of life. Our program ensures that every Marine, from private to general, active or reserve, is either attending a formal school or participating in a structured self-study program.

To meet this challenge, we have addressed all areas of training and education from boot camp through top level school. Our program derives its focus from short notice, high tempo, combined arms, maneuver-oriented conflict. The Corps' success will depend upon thinking leaders with the mental agility to apply the lessons of history to the complexity of the battlefield. All of our schools stress decision-making under conditions of uncertainty. They emphasize rapid planning and strive to replicate the chaos and uncertainty of the

modern battlefield. We teach our students to expect the unexpected, to use initiative, and to prepare for combat across the full spectrum of conflict. We place particular emphasis on low-intensity operations.

Training

Our entry-level training is now more combat oriented than ever before. There are no rear areas or occupational specialties which do not require a warrior. All Marines, regardless of MOS, train rigorously in infantry combat techniques.

Marine Battle Skills Training (MBST) is a comprehensive training program designed to develop and sustain basic combat skill throughout a Marine's career. The program includes extensive firing of individual and crew served weapons, basic knowledge of field skills, rugged battle drills and combat oriented conditioning. It is organized into progressive, mutually supporting stages which begin at boot camp and follow Marines throughout their service. Along with this program, we have made major improvements in combat marksmanship, close combat, combat water survival, and physical training.

Education

The Marine Corps University, established last year, marks a major step forward in our professional military education. It has cognizance over all Marine schools of professional military education. The University includes the NCO schools, the Staff NCO academies, The Basic School, the Amphibious Warfare School, and the Command and Staff College. We have staffed the Marine Corps University with a first-rate military and civilian faculty.

Two new programs will be offered at the University beginning in September 1990: **The School of Advanced Warfighting** and **The Art of War Studies. The School of Advanced Warfighting** will be offered to select graduates of Command and Staff College. The officers selected will remain at Quantico for an additional year of study. The curriculum will prepare them for assignment to key positions in our MAGTFs and high-level joint and combined staff billets. The course will emphasize the operational art of war and a thorough review of the dynamics of joint and combined warfare.

The second program, **The Art of War Studies,** is designed to educate selected senior officers in the art and science of warfare. This program is the foundation of our efforts to ensure we have a first class faculty at our Command and Staff College. Students will

study conflict throughout the spectrum and will be well versed in the doctrinal concepts of warfighting. Graduates will be assigned to a two year follow-on tour as a member of the Command and Staff faculty.

A planned research center will be the repository for historical records, studies, and analyses of expeditionary and amphibious warfare. This research center will support the University as well as being available to Marines worldwide.

We have also established the **Marine Corps Wargaming and Assessment Center** at the Marine Corps Combat Development Command in Quantico. Our Wargaming and Assessment Center assists us in validating changes to our concepts, doctrine, and plans. In an austere fiscal environment, wargaming is an accepted, cost effective substitute for expensive field exercises. We are tailoring and conducting wargames for all levels of war. Since March 1988, we have conducted over 30 war games for the formal schools, operating forces and reserve units of the Marine Corps. Additionally, our CMC Policy and Strategy Series provides war games for Flag and General Officers of the Marine Corps and other Services, CINCs, and the senior leadership of civilian agencies. In October of last year, we conducted an indirect warfare/counter-insurgency game centered on the Philippines. The issues that we addressed during the game proved to be both timely and important. This year, the center will conduct a Counter-Narcotic game focused on policy and operational decision making. Our **Professional Reading Program** was designed to improve the operational literacy of our Marines. We have seen a dramatic increase in the number of Marines who are reading about their profession. Since the profession of arms is becoming more complex, and with the increased reliance on technology, we sometimes overlook the most sophisticated computer of all, "the human mind." Our training and education programs are designed to tap the intellectual and physical resources of our Marines and apply them to our profession of arms. Our training and education programs will institutionalize the changes we have made.

Conclusion

We have always emphasized training, education and discipline in everything we do. Our contributions to the Nation over the years are the result of the vision of exceptional leaders translated into battlefield performance by trained Marines. We are continuously

shaping and tailoring our expeditionary forces to meet the unique requirements of a variety of conflicts and the countless deterrence deployments throughout the so-called periods of peace. Our expeditionary tradition and flexibility has prepared the Corps to respond almost by instinct to the tasks ahead. We have trained for years to achieve a high state of readiness. We are ready to deploy by any means available, ship, air, rail or road. We can escalate combat power to meet whatever we encounter, and we can operate with relative self-sufficiency or as part of a Joint Task Force. Today, our training and education programs prepare Marines to respond to and to overcome whatever challenges a rapidly changing world order dictates.

The Marine Corps has been modernized from the bottom-up. This modernization has prepared us for the most probable threats of the future. The most important elements of any threat however, are capabilities - not intentions. While we are seeing a reduction in the Soviet threat, the potential for conflict among the emerging nations of the world is increasing. Two years ago, we charted a course for the Marine Corps which would enhance our ability to respond to the changing international security environment. This has enabled us to build upon the existing structure of our MAGTFs, with their organic air support and combat service support, for self-sustaining, maritime expeditionary operations in low- to mid-intensity conflict.

Based upon the need for a force-in-readiness and the belief that her Marines will prevail in crises, our Nation has made a significant investment in her Marine Corps. We provide a high return on that investment. **Naval forces have been the Nation's force of choice in 80% of our military crises since the end of World War II. With this in mind, it is important to note the Marine Corps provided significant forces in over 50% of these situations. This is our return to the Nation for approximately 5% of its defense budget investment.** In short, the investment has already been made, the forces already exist, and the expeditionary capability is already resident in your flexible, useful, and ready-now, force of combined arms called Marines. **Your Corps will continue to take what you give us, do what is required - and more.**

Our request for FY 91 is as follows:

($ Millions)

Appropriation Table	FY89	FY90	FY91
Military Personnel Marine Corps	$5,679.0	$5,794.3	$5,918.6
Reserve Personnel Marine Corps	315.0	314.5	336.4
Operation and Maintenance Marine Corps	1,839.9	1,808.7	1,948.1
Operation and Maintenance Marine Corps Reserve	77.4	77.4	86.1
Procurement Marine Corps	1,291.8	1,075.2	782.1
Family Housing Marine Corps Allocation	156.0	152.4	137.5
Military Construction Marine Corps Projects	275.5	178.1	142.0
Military Construction Marine Corps Reserve Projects	4.7	16.3	8.9
Stock Fund Marine Corps	32.8	19.8	25.6
Total	$9,672.1	$9,436.7	$9,385.3

[The reports submitted are retained in the committee file:]

Chairman NUNN. Thank you, General Gray. Let me start the questioning this morning, and I'll start by thanking all of you for being here and for your splendid leadership of our military forces.

I think the events taking place in the world today need to be put in some degree of historical context. I also believe that 40 years of American foreign policy and American security policy, American military policy, together with our allies, has played a key role in allowing us to reach this point, where the world really is turning to the democratic process in terms of Eastern Europe and in terms of other parts of the world. So the men and women of our military services that have served in peacetime and wartime over the last 40 years, I think, collectively and individually, deserve a great round of praise from all of us, as well as, I would have to add—the taxpayers who have paid this burden.

It has been a burden, but it has been a responsibility and I think our Nation has met it well. It started under the policy of a Democratic President by the name of Truman, and it continued under every Democratic and Republican President for 40 years. In spite of the great differences we have had in foreign policy over the years—and we have had a number of partisan differences over the

years and other differences—I think in the broad context we, by and large, have stuck to these goals in a bipartisan fashion. So I hope that each of you will convey to the men and women in your command the appreciation of this committee, and, I believe I speak for all of us, in the service they are now rendering, and that goes also for those who are now retired who have served this country.

Let me ask General Vuono, and I will ask any other member of the Chiefs here to comment on this. It has just come to my attention in the last 2 or 3 days, at the Ottawa Open Skies Conference, apparently the United States agreed that under the Conventional Forces Agreement, we would not maintain more than 30,000 U.S. troops in Europe outside the Central Zone: that is in Great Britain, Italy, Spain, Portugal, France, Iceland, Norway, Greece or Turkey, regardless of whether or not we are able to maintain the full 195,000 under CFE in the Central Zone. In short, we have agreed, as I understand it, that these two ceilings, the 195,000 in the Central Zone and the 30,000 outside the Central Zone are separate and apart and that there is no freedom to mix.

Now what I had understood and welcomed was the differential, but I thought we had the freedom to mix. I thought if we had less forces in Central Europe, less than the 195,000, that we would be able to have some of those forces, if need be today or in the future, stationed in some of the other countries.

So my question, General Vuono, is do you understand this agreement that we have reached with the Soviets as I have described it?

General VUONO. My understanding, Mr. Chairman, is as you described it. The 195,000 is a treaty ceiling inside the zone. It includes Germany and the BENELUX countries, and then the 30,000 additional are outside that zone. It would include the UK, Italy, and those areas where we have Army and Air Force forces stationed. My understanding is that we would not, at the present time, mix those forces, the 195,000 and the 30,000.

Chairman NUNN. What does that do to us if we have a contingency in the Middle East or some other point in the world where we may want to work with Turkey in stationing forces there, Spain, Portugal, Great Britain or Greece? It seems to me we are making an agreement on something that is going to last quite a while that really does not have as much direct effect on Central Europe as it does on the ability of America to station forces in other countries if need be for unforeseen contingencies.

General VUONO. I am not sure how this affects the contingency forces. My understanding is the 30,000 are in-place forces. A contingency where we would have to put additional forces in would be a little different situation than the 30,000 who are in place. In other words, if we had a contingency and we had to put additional forces in, they would be above the 30,000.

Chairman NUNN. I know, and they would also breach the agreement.

I am wondering if the Chiefs have focused on this point. Were you asked about it and what are your views on it—if you think it is in our interest to enter into that kind of an agreement. General Welch, do you have any thoughts on the subject?

General WELCH. My understanding of the direction in which we are currently moving is as you described it, and our original under-

standing was that we were dealing with two limits, 225,000 total and 195,000 as ceilings, and the additional ceiling of 30,000 as being an imposed ceiling outside that region on stationed forces was a relatively new development which in fact is receiving a lot of discussion among the people at this table.

Chairman NUNN. You have some reservations?

General WELCH. As I say, it requires a lot of discussion to assess the implications of the additional ceiling.

Chairman NUNN. Was it your understanding that what we were trying to do was get an additional 30,000 beyond the 195,000 outside the Central European area? Lo and behold, it seems to me that what we had has been flipped back on us.

In order to get that 30,000, we have to agree to limit. I would much prefer not to have the 30,000 and to have the freedom to mix, because it is evident that we are going to have less forces in Central Europe over a period of time. If nothing else, the population pressures from East Germany and all of those things are going to require, I am sure, the West German people and their government eventually to reexamine the number of foreign troops in their own country.

So I think in an effort to get an extra 30,000, we have paid an inordinate price here. I hope you all will focus on that.

General WELCH. I want to add to General Vuono's point. The 30,000 are stationed forces. Nothing limits our right to reinforce during contingencies. All of those agreements have to do with stationed forces.

Chairman NUNN. If that is the case, then the CFE agreements mean nothing, do they? If both sides can come flying in there with 100,000 extra forces and say, whoops, we have a contingency, then what do the agreements mean?

General WELCH. Clearly, we have to retain the right to reinforce in an emergency.

Chairman NUNN. I think you better take a look at the agreement on that. I am not sure that is what it provides. If the Soviets have that right in Eastern Europe, if they have the right to go back into Eastern Europe and say, wait, folks, we have a contingency here, we do not like what the Poles are doing and we do not like what the Hungarians are doing, then the CFE agreement means nothing.

General WELCH. It still provides the added assurance of increased warning time and lower tensions on a day-to-day basis. I do not think any of us think that you can sign an agreement that guarantees there will never be an increase in tensions over time.

Chairman NUNN. So your understanding of the CFE agreement is that it is only stationed forces, and that either country, either side, can reintroduce forces on contingencies at any time?

General WELCH. My understanding is any side has a right to reinforce in an emergency, yes, sir.

Chairman NUNN. I think we all better check that one. Senator Warner.

Senator GLENN. Could I have just one minute, because I have to go to a mark-up.

Senator WARNER. I would be happy to yield.

Chairman NUNN. Senator Glenn.

Senator GLENN. Mr. Chairman, I wanted to add my welcome to our witnesses but especially to Admiral Trost and General Welch. Today's hearing will be their last appearance. I know that has been mentioned earlier in the hearing, but it will be the last time these two Chiefs of service present their annual posture statement. Admiral Trost and General Welch will be stepping down this summer after a combined total of 80 years of dedicated service to this country.

Admiral Trost, a native of Illinois, entered the Academy in 1949 and was commissioned in 1953 after graduating first in his class at the Academy.

General Welch, a native of Oklahoma, entered the Kansas National Guard in 1951, got his wings out of the Aviation Cadet Program in 1953 and was commissioned as a second lieutenant.

Over the ensuing 37 years, Admiral Trost, as a submariner, and General Welch, as a command pilot, rose to the top of their respective services.

Without objection, I would like to have their complete biographies placed in the record of this hearing.

Chairman NUNN. Without objection, they will be.

[The information referred to follows:]

ADMIRAL CARLISLE A. H. TROST
UNITED STATES NAVY
CHIEF OF NAVAL OPERATIONS

Carlisle Albert Herman Trost became the U.S. Navy's 23rd Chief of Naval Operations on June 30, 1986.

The son of the late Elmer H. and Luella (Hoffman) Trost, he was born April 24, 1930, and is a native of Columbia, Illinois. He attended Washington University, St. Louis, Missouri prior to entering the U.S. Naval Academy in 1949. On June 5, 1953, he was commissioned an ensign, graduating first in his class from the Naval Academy.

Following graduation, Admiral Trost first reported to the destroyer USS Robert A. Owens (DD 827) and, in December 1954, detached to attend the Submarine School, New London, Connecticut. In June 1955, he reported to the submarine USS Sirago (SS 485) where he qualified as a submariner in July 1956. From January to June 1957, he attended the Advanced Nuclear Power course at the Submarine Base, New London, Connecticut, followed by further training at the Naval Nuclear Power Training Unit, Idaho Falls, Idaho until September 1957.

In November 1957, Admiral Trost reported to the nuclear-powered attack submarine USS Swordfish (SSN 579) and in December 1959 qualified to command submarines. From January until June 1960, he studied German at the Army Language School, Monterey, California, and was then assigned temporary duty in the Bureau of Naval Personnel, Navy Department, Washington, D.C. In September 1960, he reported to the University of Freiburg, Federal Republic of Germany as an OLMSTED Scholar, serving until January 1962 when he reported as executive officer of the nuclear-powered attack submarine USS Scorpion (SSN 589).

From May to July 1963, Admiral Trost attended the Polaris Command course at the Fleet Anti-Air Training Center, Dam Neck, Virginia. He then reported as executive officer of the Blue Crew of the nuclear-powered ballistic missile submarine USS Von Steuben (SSBN 632). In March 1965, he reported as Military Assistant to the Deputy Secretary of Defense, Washington, D.C.

In January 1968, Admiral Trost assumed command of the Blue Crew of the nuclear-powered ballistic missile submarine USS Sam Rayburn (SSBN 635). In September 1969, he was assigned as Assistant Chief of Staff for Personnel and Administration on the staff of Commander Submarine Force, U.S. Atlantic Fleet. He reported in August 1970 as Executive Assistant and Naval Aide to the Under Secretary of the Navy, and later Secretary of the Navy, serving until June 1973. In March 1973, his selection to flag rank was approved by the President. In June 1973, he assumed command of Submarine Flotilla One in San Diego, California, with additional duties as Commander Submarine Force Pacific Representative, West Coast. (Submarine Flotilla One became Submarine Group Five in July 1973.)

In December 1974, Admiral Trost reported to the Bureau of Naval Personnel as the Assistant Chief for Officer Development and Distribution. In January 1976, he was assigned to the Office of the Chief of Naval Operations as Director, Systems Analysis Division. On August 22, 1978, he was promoted to vice admiral and reported as Deputy Commander in Chief, U.S. Pacific Fleet, Pearl Harbor, Hawaii.

On February 14, 1980, Admiral Trost assumed command of the U.S. Seventh Fleet where he was awarded the Government of Japan's Order of the Rising Sun (2nd Class) and the Republic of Korea's Order of National Merit.

On September 15, 1981, Admiral Trost was assigned as Director, Navy Program Planning on the staff of the Chief of Naval Operations. On October 4, 1983, he was promoted to the rank of admiral and became Commander in Chief, U.S. Atlantic Fleet and Deputy Commander in Chief, U.S. Atlantic Command.

Admiral Trost's personal awards include the Distinguished Service Medal (2); the Legion of Merit (3); the Navy Achievement Medal; the Navy Expeditionary Medal; the Navy Occupation Service Medal (European Clasp); the National Defense Service Medal with Bronze Star; the Antarctica Service Medal; the Humanitarian Service Medal; the Sea Service Deployment Ribbon; and a number of awards from foreign countries.

He is married to the former Pauline Haley of Cottage City, Maryland. Admiral and Mrs. Trost have four children: Carl Michael, Laura Lee, Steven Glenn and Kathleen Susan.

Biography

United States Air Force

Secretary of the Air Force, Office of Public Affairs, Washington, D.C. 20330-1000

GENERAL LARRY D. WELCH

General Larry D. Welch is chief of staff of the U.S. Air Force, Washington, D.C. As chief, he serves as the senior uniformed Air Force officer responsible for the organization, training and equipage of a combined active duty, Guard, Reserve and civilian force of nearly 1 million people serving at approximately 3,000 locations in the United States and overseas. As a member of the Joint Chiefs of Staff, he and the other service chiefs function as military advisers to the secretary of defense, National Security Council and the president.

General Welch was born June 9, 1934, in Guymon, Okla., and graduated from Liberal (Kan.) High School in 1952. He received a bachelor of arts degree in business administration from the University of Maryland and a master of science degree in international relations from George Washington University, Washington, D.C. The general completed the Armed Forces Staff College at Norfolk, Va., in 1967 and the National War College at Fort Lesley J. McNair, Washington, D.C., in 1972.

He enlisted in the Kansas National Guard in October 1951, serving with the 161st Armored Field Artillery until he enlisted in the U.S. Air Force. In November 1953 he entered the aviation cadet program and received his pilot wings and commission as a second lieutenant. He served initially as a flight instructor until his assignment in July 1958 to Headquarters Air Training Command, Randolph Air Force Base, Texas.

General Welch then served in tactical fighter units in Europe, the continental United States and Alaska before transferring to the Republic of Vietnam where he flew combat missions in F-4C's over North and South Vietnam, and Laos.

After completing the Armed Forces Staff College in July 1967, he was assigned to Headquarters U.S. Air Force, Washington, D.C., under the assistant chief of staff for studies and analysis. Upon graduation from the National War College in July 1972, he was assigned to Tactical Air Command, where he served in wing deputy commander for operations, vice commander and wing commander positions.

In August 1977 he transferred to Headquarters Tactical Air Command where he served as inspector general, deputy chief of staff for plans and deputy chief of staff for operations. In June 1981 he became commander of the 9th Air Force and Air Force component commander for the Rapid Deployment Joint Task Force. In November 1982 he was assigned as deputy chief of staff for programs and resources at Air Force headquarters and became vice chief of staff of the U.S. Air Force in July 1984. From August 1985 to June 1986 he served as commander in chief, Strategic Air Command, and director, Joint Strategic Target Planning Staff, Offutt Air Force Base, Neb. He assumed his present duties in July 1986.

The general is a command pilot with more than 6,500 flying hours. His military decorations and awards include the Defense Distinguished Service Medal with oak leaf cluster, Distinguished Service Medal with oak leaf cluster, Legion of Merit with oak leaf cluster, Distinguished Flying Cross, Meritorious Service Medal, Air Medal with six oak leaf clusters, Air Force Commendation Medal with two oak leaf clusters, Joint Meritorious Unit Award and Air Force Outstanding Unit Award with "V" device and two oak leaf clusters.

He was promoted to general Aug. 1, 1984, with same date of rank.

General Welch is married to the former Eunice Ellis of Liberal, Kan. They have three sons, Brian E., Stewart R. and Paul A., and one daughter, Leslie A.

Senator GLENN. Finally, Mr. Chairman, former Secretary of Defense Jim Schlesinger testified before this committee a short time ago that after 40 years, quoting him, "the great American mission in Europe is drawing to a close. America has fulfilled its historic responsibility. We have been steadfast."

Mr. Chairman, Admiral Trost and General Welch during these past 40 years, have been steadfast in their professional leadership and their personal dedication to their services and to this country. They have made significant contributions to what Secretary Schlesinger described as America's finest hour.

I think on behalf of the American people I would like to add my personal thanks and appreciation to Admiral Trost and General Welch for a job well done and wish them the very best as they move on this summer to new challenges.

Chairman NUNN. Senator Glenn, I completely agree with you. I would only add one caveat to that. They have a lot of tough decisions left to make before they leave. It ain't over yet. [Laughter.]

Senator GLENN. I will be back if I can later on.

Chairman NUNN. Senator Warner.

Senator WARNER. Thank you, Mr. Chairman. You and I dealt with this question yesterday of the 195,000 and the 30,000, and I think I will follow on with a few more questions on it.

General Vuono, is it your understanding that the 195,000 can be drawn down in the face of a contingency and the 30,000 stationed? It does say "stationed" very clearly. That may well be the operative word—can be augmented?

General VUONO. The 195,000 is a treaty ceiling, not a floor, so you cannot go above the 195,000.

The 30,000 are stationed forces. I read it that way; that they are stationed forces.

I do not think any of us can predict what the future may hold in terms of contingencies in that area.

Senator WARNER. I am not asking you. I am just asking you to assume that there is a contingency, which in your collective judgment and those in NATO say we need more U.S. forces in the 30,000 to stay down in the southern flank, which has traditionally been an unstable part of the world.

If you have to send down additional Americans, can you take them out of the 195,000 and put them down there, although they may hopefully only be there for a short period of 30 or 60 days?

General VUONO. My understanding under the treaty right now is that we would not be able to move them from the 195,000 area into the area where we have a ceiling of 30,000.

Senator WARNER. So you are at variance with General Welch?

General VUONO. No. I think General Welch's point——

Senator WARNER. We should not think. We really ought to know with some precision. This is, I suppose, my concern. A decision of this magnitude, in my judgment, should have been discussed very thoroughly in the tank. There should be a position paper on it and that position paper made known to the President via the Chairman.

Perhaps someone would step back and tell us exactly what did occur in the tank, what did the documents reflect, and how the decision process was made. Would someone care to volunteer on that?

General VUONO. I am not sure we could do that in open session.

Senator WARNER. The 195,000 and the 30,000 are certainly open. I mean, this is a subject being discussed all over the world.

General VUONO. I know that, but the discussions that we had among the Joint Chiefs I think would be better served in closed session. We could provide it for the record for you.

[The information follows:]

CEILING IN EUROPE

The original language that was worked called for a maximum of 195K U.S. and Soviet stationed forces in the central zone with a total cap on U.S. forces in the ATTU of 225K. The 195K total was considered to be both a commitment to the alliance (i.e., floor) as well as a treaty ceiling. In addition, the 195K was nested in the 225K to allow for movement of forces to the outer zone as required. The JCS were consulted on this point and agreed to the proposal.

In Ottawa, in order to gain Soviet acceptability of the President's initiative, the proposal was altered to its current state which treats the central and outer zones as separate and distinct with ceilings of 195K and 30K respectively. The JCS were not consulted on this change, although the CJCS was made aware of the new position at the time it was being tabled. The specific language in the revised manpower initiative is as follows. "The United States and the Soviet Union shall each station no more than 195,000 ground and air personnel on the foreign territory in Europe in the Central Zone. This would also constitute the total ceiling on Soviet troops stationed on foreign territory in Europe. In addition the United States agrees that it will station no more than 30,000 troops on foreign territory in Europe outside of the Central Zone. The Central Zone referred to above is the zone proposed by the U.S. President in the specific context of his manpower initiative on 31 January 1990."

Concerning the ability to temporarily exceed the 195K or 30K ceilings, both the NATO and Pact proposals contain placeholder language that would allow ". . . for temporarily exceeding the numerical limitations under this Treaty, for example for military exercises." However, the modalities of this provision remain to be developed. Presumably, a preannouncement would be required prior to exceeding a ceiling. A special provision for transits would be required to protect the ability to stage troops through the region. For exercise and transiting troops to be exempt, it is critical that the treaty language distinguishes between these types of forces and stationed forces.

Senator WARNER. All right. We will just have to accept that. So we are not going to be able to determine today what the decision process was but instead are going to get the various interpretations of the four members here with respect to that action as has been publicly announced.

Let us go back, then. It seems to me that General Welch left the impression rather clearly with this Senator that if there were a contingency somewhere in the flank which required augmentation of the stationed forces, those forces could be withdrawn from the 195,000.

Am I not correct, General Welch?

General WELCH. I do not know that the source of the forces is addressed. Clearly, the 30,000 refers to stationed forces. I know of nothing in the CFE agreement or the CFE discussion that put any limitations on reinforcement in emergency. So as to the source of the additional forces we will maintain reinforcing capability in the CONUS. I think that is fairly clear.

Now what we had assessed was that 195,000 is an adequate force for that region as it was described, and that 225,000 is an adequate force for the entire theater as described.

Senator WARNER. Is that view, then, uniform among the four?

General VUONO. Yes.

Admiral TROST. Yes.

General WELCH. Yes.

General GRAY. YES.

Senator WARNER. General Gray, as we begin to reshape and restructure the forces, there has been some publicity, not ascribed to you personally but to others presumably in the Marine Corps, that the Army might be reshaping in a manner to adopt forces which would parallel the roles and missions now assigned to the Marine Corps.

Do you find that to be the case?

General GRAY. No, I do not believe that is the case, Senator; and, I do not believe that anyone in the Active or Total force of the Marines has subscribed to that idea.

I think what must be considered is that we need a credible land army for all the right reasons, as reflected in the words of the Constitution.

Senator WARNER. But as we move toward greater mobility and greater flexibility, those have always been the hallmarks of the Marine Corps, and we cannot in this fiscal environment have redundancy. We have to eliminate it as much as possible. That is the point I wish to make.

General GRAY. We have today the mobility, the maneuverability and the capability to do the expeditionary roles as we see them. It would seem to me that the additional forces required to complement this effort is the capability which the Army is planning to "bring on board." They already have some very fine elite contingency units, as we know.

So, I view this kind of effort as a complementary effort for the good of all. I do not believe that the roles and missions of the Nation's expeditionary forces are in jeopardy.

[The information follows:]

The basic roles, missions, and structure of the Marine Corps, as established by the National Security Act of 1947, are codified within section 5063 of Title 10, U.S. Code. In essence, the law provides the charter by which the Marine Corps exists and functions, but is not rigidly prescriptive with respect to the employment of forces in combat.

Section 5063, Title 10, U.S. Code states:

(a) The Marine Corps, within the Department of the Navy, shall be so organized as to include not less than three combat divisions and three air wings, and such other land combat, aviation, and other services as may be organic therein. The Marine Corps shall be organized, trained, and equipped to provide fleet marine forces of combined arms, together with supporting air components, for service with the fleet in the seizure or defense of advanced naval bases and for the conduct of such land operations as may be essential to the prosecution of a naval campaign. In addition, the Marine Corps shall provide detachments and organizations for service on armed vessels of the Navy, shall provide security detachments for the protection of naval property at naval stations and naval bases, and shall perform such other duties as the President may direct. However, these additional duties may not detract from or interfere with the operations for which the Marine Corps is primarily organized.

(b) The Marine Corps shall develop, in coordination with the Army and the Air Force, those phases of amphibious operations that pertain to the tactics, techniques, and equipment used by the landing forces.

(c) The Marine Corps is responsible, in accordance with integrated joint mobilization plans, for the expansion of peacetime components of the Marine Corps to meet the needs of war. August 10, 1956, c. 1041, 70A Stat. 278.

These broad provisions of law have been given additional focus and specificity in DOD Directive 5100.1, "Functions of the Department of Defense and Its Major Components." In this document, the Secretary of Defense refines and amplifies statutori-

ly assigned missions, establishing a further division of effort that seeks to avoid unnecessary duplication and yet ensure the redundancy and interoperability required by joint operations. The method used is to divide the Services' functional responsibilities into primary and collateral; force structure can only be justified in terms of the requirements associated with primary functions. In the case of the Marine Corps, the primary functions are numerous, and in some cases shared jointly with the Navy. The aggregate effect of the specific functions is to ensure that the Marine Corps is able to meet its fundamental role, while at the same time ensuring that it has the capabilities to answer the challenges inherent in "such other duties as the President may direct."

To fully appreciate the fundamental soundness of both Title 10 and the "Functions Paper," and to place them in historical perspective, it is necessary to look at the law and two widely separated instances of deliberations that provided the foundation upon which the two contemporary documents rest. The first is the efforts of the Joint Board that led to the publication of "Joint Action of the Army and the Navy," an early division of labor between the Army, Navy, and Marine Corps approved by both the Secretary of War and Secretary of the Navy in 1927. The second is the deliberations of the 82nd Congress during 1952 hearings that cast Title 10 in the form that it still largely retains.

The Joint Board's publication is interesting in that it devoted specific attention to the peacetime responsibilities of the three (at that time) Services. Reflecting the Nation's reluctance to maintain a large standing army during peacetime, and the historically effective expeditionary capabilities of the Navy and the Marine Corps, the Board assigned to the Navy peacetime functions to "safeguard the interests of the United States on the seas and in the territory of nations having irresponsible governments" and "support the diplomatic policy of the United States." To the Marine Corps was given the functions for "emergency service in time of peace for the protection of the interests of the United States in foreign countries" and "to perform such duties on land as the President may direct." Peacetime functions of the Army centered on preparation for homeland defense, and "in exceptional cases, to furnish land forces for the occupation of foreign territory in protection of the interests of the United States." Common to all was the requirement to "protect and promote the interests and policies of the United States at home and abroad, in peace and in war."

The recognition of the suitability of naval forces for expeditionary duty in conflicts short of major war, and of the Army's unique capability and responsibility to be able to mobilize and deploy for major conflicts, is further reflected in the 1952 deliberations of the 82nd Congress as it modified Title 10 to better identify the roles, missions, and functional responsibilities of the U.S. Marine Corps.

The law, crafted in 1947, provides the central focus for the Marine Corps' development of force capabilities to fully and effectively carry out its national security obligations and is the foundation on which the DOD Directive is constructed. A thorough understanding of the roles and missions as they are crafted in law is fundamental to understanding the Marine Corps in today's security environment. Specific provisions in the law, when defined, that provide an insight into the Marine Corps' role in national defense are:

". . . within the Department of the Navy." The Marine Corps is a naval Service. As soldiers of the sea, the Marine Corps supplements the Navy's power projection capability, providing the manipulative hand for the Navy's global reach.

". . . not less than three combat divisions and three air wings. . ." The original act did not include this provision, but the Korean war and congressional testimony of defense leaders persuaded Congress to provide this statutory safeguard for the Corps.

". . . fleet marine forces of combined arms, together with supporting air components. . ." This phrase acknowledges the demands of expeditionary service and the lessons learned by the Corps in countless conflicts, large and small. Today's Marine Air Ground Task Forces (MAGTFs) are based on warfighting requirements and anchored in law.

". . . seizure or defense of advanced naval bases. . ." A traditional, but still relevant, mission.

". . . conduct of such land operations as may be essential to the prosecution of a naval campaign. . ." These land operations involve the establishment of forces ashore to control choke points, littorals, and other terrain relevant to a naval campaign. The ability to conduct such land operations finds utility in performing "such other duties as the President may direct." While the Marine Corps comes from the sea, it fights largely on land, and in the air above.

". . . detachments and organizations for service on armed vessels of the Navy . . . security detachments for the protection of naval property at naval stations and bases. . ." This is a traditional association of Marines with the Navy as part of ships' complements and as security forces for installations.

". . . and shall perform such other duties as the President may direct. . ." This provides authority for the Presidential employment of Marine Corps forces for a range of worldwide operations in support of political objectives short of war, or in sustained operations ashore as in Korea and Vietnam. It carries with it the special obligation to be prepared to respond to a wide variety of crises and has identified the Marine Corps as a force in readiness for the United States.

". . . shall develop . . . those phases of amphibious operations that pertain to the tactics, technique, and equipment used by landing forces. . ." Recognizes the Marine Corps' primary responsibility for the landing force aspects of amphibious warfare.

". . . for the expansion of peacetime components of the Marine Corps to meet the need of war. . ." The genesis of the Marine Corps Reserve, fully integrated with the active forces to meet the challenges associated with major hostilities.

Following the 1950 reduction of the Marine Corps to a relatively ineffective force and the advent of the Korean war, Congress became convinced that additional statutory protection was required to ensure the maintenance of a capable Marine Corps. This congressional and public concern prompted an additional series of legislative hearings which addressed the rapid emasculation of the Marine Corps following World War II and the total unpreparedness of the Nation for the Korean conflict. The 82nd Congress was convinced that additional statutory protection was required to ensure the maintenance of a capable Marine Corps. Hearings to that end resulted in the amending of the National Security Act to include, among other changes, the current requirement that the Marine Corps will consist of "not less than three combat divisions and three air wings. . ." While not included in the legislation, the rationale provided during the hearing is instructive in understanding the intent of Congress, and its understanding of appropriate roles and missions for the Corps.

Congress recognized the need for a "strong force in readiness" . . . "versatile, fast-moving, and hard hitting," and able to have a "very powerful impact in relation to . . . small wars. Such a force can prevent the growth of potentially large conflagrations by prompt and vigorous action during their incipient stages. Such a ready force, highly mobile, always at a high state of readiness, can be in a position to hold a full-scale aggression at bay while the American Nation mobilizes its vast defense machinery." The corps would serve as a "balanced force in readiness for a naval campaign and, at the same time, a ready striking force for commitment to campaigns such as that in Korea. These forces would be used to withstand the initial phases of whatever action may confront this country while our vast defense machine regains the required momentum." And finally, the purpose of the amendment "is to provide a balanced force in readiness for a naval campaign and, at the same time, a ground and air striking force ready to suppress or contain international disturbances short of large-scale war. The committee feels that, far from being duplicative or competitive, such a force would better enable the Army and Air Force to concentrate on their major responsibility of preparing for all-out war.

In summary, the primary role of the Marine Corps is a naval one, focussed on the provision of expeditionary Fleet Marine Forces of combined arms for service with the fleet in the conduct of naval campaigns, and for such other duties as the President may direct. Those forces, shaped by statue, congressional intent, and operational experience, are ideally suited for a wide variety of missions, ranging from international presence to crisis control to contingency response to amphibious assaults to sustained combat operations ashore. It is significant that the Chairman of the Joint Chiefs of Staff found, in his 1989 review of roles and missions mandated by the Defense Reorganization Act, that the existing depiction of Marine Corps roles and missions remains effective.

Senator WARNER. General Vuono, the words "instability" and "uncertainty" are being used for the basic mission of the remaining 195,000 troops in the Central region. Just what is the definition that we should employ here as we address these revised roles of the NATO forces? What is the definition of a stability force?

We recognize that the Soviet Union will continue for the foreseeable future to have an enormous conventional potential, albeit withdrawn and not with the aid of the Warsaw Pact it once en-

joyed. So it is clear that our forces in NATO will be confronted, although at some distance and in a different way now with the Warsaw Pact having become a paper tiger.

What is the role of the stability force? Does it overlap in trying to resolve conflicts, say, between the new emerging Eastern democracies? Is it related to the potential of a unified Germany? What is the mission of a stability force in Central Europe?

General VUONO. It is tied, of course, to NATO. It is tied to the fact that we have had a credible defense over there as a deterrent for over 40 years, as you and the chairman mentioned. I think that the remaining force, the 195,000 over there, gives us a credible defense capability as a deterrent force.

Senator WARNER. Against what? What is the threat?

When we talk to the American taxpayer, we say you are paying these taxes to keep these troops here to ward off any threat from what potential enemy?

General VUONO. I think the threat is that the Soviet Union still has a tremendous capability as we go through this transition.

Senator WARNER. I readily acknowledge that.

General VUONO. I think it would be a mistake to reduce to a level where you do not provide a credible defense and a deterrent capability.

Senator WARNER. I readily acknowledge that.

Is there something other than the Soviet Union in its conventional and strategic force structure?

General VUONO. No. I think it is mainly the Soviet Union during this transition period.

Also, I think that we provide an anchor over there with our forces, and will even if they are smaller in number than we have now, during a period of time where there is a certain amount of instability throughout all of Europe, particularly Eastern Europe.

So I think that the force level must be at a sufficient number to provide——

Senator WARNER. I agree with that, but you keep coming back to instability in Eastern Europe. What is the threat over and above and separate from the Soviet forces?

General VUONO. I think the major threat is the Soviet Union during this drawdown, and I——

Senator WARNER. What is the minor threat?

General VUONO. I do not think you can peg a particular country as a threat. I just think generally over all there is a need for our forces there in some number during this period of time.

Senator WARNER. My time is up, Mr. Chairman.

I am in support of the President's policy. We just need the right words to use in defending this policy.

Chairman NUNN. Thank you, Senator Warner. Senator Dixon.

Senator DIXON. Thank you, Mr. Chairman.

Mr. Chairman, first I would like the record to show that I enthusiastically endorse the complimentary remarks concerning Admiral Trost and General Welch that were made earlier by my distinguished colleague from Ohio and congratulate them on their outstanding service over the years. I thank them as a member of this committee for that service.

General Welch, over the long history of the C–17 program, some have contended that other aircraft can better accomplish the task of rapidly deploying our power worldwide. I would like to have your comment about that.

General WELCH. It is very clear that the C–17 is the result of long and exhaustive studies about the overall requirement for moving forces all around the world. I do not think I need to give a long dissertation on what those qualities are. It is very economical in terms of operating cost. It provides a throughput that is particularly important. Let me give you an example of why throughput is so important.

Oftentimes our problem, even greater than moving things through the air, is getting cargo unloaded on the ground. That was a significant driver in Panama, for example. In order to increase the throughput—that is, to reduce the turnaround time—we air refueled all of the transports that went to Panama, not because they needed air refueling to get there, but to avoid having to refuel them on the ground. The key limitation in our ability to even get that fairly small force in there quickly enough was the throughput.

So, the thing you get from the C–17 that you get from no other system is the ability to take forces whenever and wherever you need them, to a wide variety of airfields, with rapid throughput. That is what gets that combat force in there as quickly as you need it.

In addition to all that, it is just a very, very efficient airlifter, clearly the best solution.

Senator DIXON. I wonder if I could follow up. You know, we keep hearing the rumors that the C–17 cannot fly unrefueled from Dover Air Base to the Azores at its maximum cargo weight of 167,000 pounds. I would like your comment on that.

General WELCH. First, let me say very clearly, the C–17 can carry 167,000 pounds from Dover to the Azores. The reason that this criteria is important is that it is a critical leg to airlift anywhere in the world. The longest airlift leg that you need to make without air refueling is from Dover to the Azores. If you can carry the maximum load over that distance, then you can take anything anywhere in the world.

It can carry 167,000 pounds, the specified weight, over the critical leg, the specified leg. We had a major review which I chaired personally a couple of months ago to be sure that we were identifying any high cost drivers from which we were getting a very small marginal return. As a result of that review, we agreed to lower the 2,400 mile leg load to 160,000 pounds.

One hundred sixty thousand pounds is the largest single load that the Army needs for us to carry. So, we lowered the load required for the 2,400 mile leg to 160,000 pounds. We retained the full 167,000 pound requirement for the critical leg. It is a minor adjustment, but it saves significant dollars in the program.

Senator DIXON. Thank you.

Admiral Trost, your 1991 budget calls for the decommissioning of the battleships *New Jersey* and *Iowa,* yet I see no plans to stop construction for the home port at Staten Island, New York.

Could you comment on that in view of the fact that the Navy is really not going to have a 600-ship Navy in any event?

Admiral TROST. The construction in fact has been completed, so the base does exist.

Senator DIXON. Thank you. Senator Cohen.

Senator COHEN. The reason why Senator Nunn and Senator Warner have raised the issue on the 30,000 I think is because of a shared concern on the part of many of us in terms of what has been done and what has been said here.

My understanding is, for example, that roughly—and General Vuono, you can correct me on this—but about 24,000 troops were used recently in Panama, is that correct?

General VUONO. Yes.

Senator COHEN. I think we have come to the conclusion that it is not probable or likely that we will see a Soviet confrontation with the United States or with Western Europe. It is even less likely that you would see a Soviet confrontation with the United States in the Middle East, but the question remains whether a force of 30,000 will be sufficient to fight a limited war in the Middle East.

Where would the troops come from if you had to reinforce—if you had some kind of a conflict in the Middle East and we had to deploy forces? We have got 30,000 stationed in the flanks in Europe—where would the rest come from?

General VUONO. Army forces would deploy from the continental United States. The global and regional situations would dictate the number of troops and the type units to be employed.

General WELCH. In the case of the Air Force they would come primarily from the United States.

Senator COHEN. That is a lot of C–17s.

General WELCH. Yes, it is. It requires a lot of airlift in order to do that.

Admiral TROST. I think General Gray may want to comment, but I think one of the purposes of the Maritime Prepositioned Squadron in the Indian Ocean today is to provide equipment for a Marine Expeditionary Brigade, which would probably be one of the first forces we would call upon in a potential conflict. The personnel would be lifted in by air and married up with their equipment, which would come in by sea.

Senator COHEN. They come from where, Diego Garcia?

Admiral TROST. The ships would come from Diego Garcia. The marines would come from Okinawa in a situation like that.

General GRAY. You have a number of options to generate forces in the Mideast, and you could do it with the maritime preposition force not only from Diego Garcia but from the Atlantic maritime preposition forces. You could move both of those during times of tension and alert. You would build off of your amphibious forces and 6th Fleet forces who are already there.

The airlift requirements for the maritime preposition forces, of course, are much smaller, so you could probably depend in the main on naval forces for your initial build-ups of any conflict in the Mideast, augmented by some air power and special forces.

Senator COHEN. The Secretary of the Air Force made the point yesterday that you can fly a lot faster than you can sail, that you might be able to arrive with more on a ship but it will be after the war is over.

General GRAY. I disagree with that in toto. It is not how quick you get somewhere, it is how quick you can employ. Of course you have to be able to stay around long enough to get a geopolitical victory. If the Arab-Israeli War had lasted a few days longer there would have been a different ending to that testimony.

General VUONO. I think much would depend on the scenario that we would portray at that time. What we have said is that we have a package of forces depending on the scenario that we could deploy worldwide.

Senator COHEN. The only point that is being made is, it is going to complicate your lives and our lives a great deal with an agreement to restrict forces that can be deployed in the flanks in Europe to 30,000. You gentlemen would agree with that, would you not?

I am not asking you to make a major break in the administration. That is going to complicate the military planners' lives by having only 30,000 in Europe. Is that not a fair statement?

Admiral TROST. May I give you an answer that goes off in a different direction? That is why we have continued to stress mobility and flexibility, not only of CONUS-based forces, but also of forward-deployed forces, for containment of contingency situations.

[The information follows:]

[Deleted.]

Senator COHEN. General Welch, you indicated that the Soviets are now selling high quality technology to about anybody who will pay cash for it. Would you agree that with a START agreement pending for signature sometime in June of this year that the verification of the START agreement will be much more difficult than that of the INF Treaty——

General WELCH. Certainly.

Senator COHEN. And with the spread of technical capabilities to Third World nations it is going to put a greater stress upon our national technical means of verification?

General WELCH. I certainly would.

Senator COHEN. Therefore we are going to have to have greater national technical means rather than less. Would you agree?

General WELCH. We are certainly going to have to have more effective national technical means than we have today.

Senator COHEN. Are you satisfied, looking at the budget that is projected, that we have, or will have, the national technical means to verify these new agreements which are compounded by the spread of technology in the Third World nations involving chemical and biological weapons?

General WELCH. Let me say it this way, sir. I am certainly satisfied that we are putting the proper high emphasis on that. I would stop short of saying that I am satisfied with any of the capabilities that are provided at these budget levels.

Senator COHEN. Do you think we are putting a high emphasis on national technical means in the coming budget?

General WELCH. I certainly do, relative to what is happening to other programs in the budget. I certainly do. I think we are putting a very high relative emphasis on that particular aspect.

Senator COHEN. Perhaps you could turn to the C–17 for a moment. There are, according to the literature that I have read,

about 64 major components that are already in commercial use, including the engines, landing gear and other major parts. Given that, why is the program costing about $5.2 billion in research and development funding, and yet the Air Force is billing it as a low technical risk program?

General WELCH. I think the answer to that is that while there are a great many off-the-shelf components—the engine, for example; the engine is well-proven—that we are asking of that aircraft some things that we do not ask off-the-shelf systems to do: the ability to operate from shorter airfields, the ability to turn around with minimum ground space and turn around at very rapid paces, and the integration effort, and that is true in any major new weapons system. The integration effort is a more difficult effort than building the components.

Senator COHEN. And you have had difficulty with two of the major contractors?

General WELCH. Yes. The prime contractor had great difficulty with the initial subcontractor on the flight control system, and had to change subcontractors. They are now making great progress on that. And having changed contractors, the prime contractor was unable to reach a negotiated agreement with one of the major subcontractors. But of course, that is the prime contractor's business to do that.

Senator COHEN. Is that the reason why it is 1½ years behind schedule?

General WELCH. I would think that the second made no contribution to the schedule problem. The first made a major contribution to the schedule slip.

Senator COHEN. My time is up, Mr. Chairman.

Chairman NUNN. Thank you, Senator Cohen. Senator Lott.

Senator LOTT. Mr. Chairman, I wonder if Senator Thurmond already had his chance to ask some questions?

Chairman NUNN. We are just going by the early bird rule, but if you will yield, I will be glad to recognize Senator Thurmond.

Senator LOTT. I will go ahead. I always want to pay ample respect to my leader from South Carolina, Mr. Chairman.

Senator THURMOND. Thank you very much, I'll wait my turn.

Senator LOTT. Thank you, Mr. Chairman. Admiral, I was a little bit surprised by your—what I would call, I guess, luke-warm comments in your testimony with regard to sealift. Most of the other witnesses we have had have expressed a great deal of concern about it, viewed it as a critical problem, and yet, I do not get that feel from what you have to say. Would you like to expand on that a little bit?

Admiral TROST. I would be delighted, Senator Lott.

Sealift is quite an interesting issue. It is a national problem in the case of a global war. The problem arises primarily from the fact that we have had a decline continuing in the maritime industry and in the number of ships merchant marine under U.S. flag ever since the period shortly after World War II.

We were concerned in the Navy, not because we are charged with building ships for sealift, but because we saw the decline in available shipping in the event of an emergency. In the past decade, therefore, we drew up a plan that would provide some 142

ships for sealift, of which about 120 are currently in the inventory. Those ships, while no longer commercially viable, nonetheless have the capability we need to haul Army equipment, wherever required.

Those ships were purchased. Those ships were laid up. Some of those ships are maintained in a relatively short readiness status. We, in addition, procured for Army support the eight SL–7-class ships which were available from commercial inventory. They are quite fast, and are very useful from a military standpoint, even though they are no longer commercially viable. Those ships have been modified so that they can do the job required of handling Army divisional equipment.

We have, in addition, procured quite a large number of maritime prepositioning ships, both to serve the forward-deployed prepositioned equipment requirement for three Marine Expeditionary Brigades, and also to provide fuel, water, ammunition and certain other items for Army and Air Force use in a contingency.

In my view, we should focus less at this time on why the Navy is not building ships, which is not part of its charter, and more on what we can do nationally to revitalize our maritime industry. That may reflect my apparent luke-warm feeling. My luke-warm feeling is not a lack of need in any sense, but a great concern at the malaise that has overtaken the maritime industry in this country.

Senator LOTT. There is no question that that exists, but the reason I keep asking this question almost every week is, everybody is concerned about it, everybody talks about it, but we continue to not really have a plan or know what we are going to do about it in the future. Maybe you are saying we have, perhaps, an adequate situation now, but you have got to be concerned about it on the long-term basis.

Is this something the Navy is going to be working on? Are you going to come to us for some recommendations, or what are we waiting on?

Admiral TROST. This is something that everybody focuses on the Navy for, but we are not the instrument of national policy that is going to revitalize the maritime industry. As I noted, we have done all the things that we think are properly within our capability as well as many things which are beyond any of our mission statements, to try to ameliorate the situation.

I have a longer-term concern. We have purchased ships and put them in our Ready Reserve Fleet to support defense requirements. Those ships are obsolescent in today's commercial industry.

Our focus should be on a viable merchant marine which has ships with propulsion plants and trained personnel to operate them, and not a reliance on ships which are laid up, many of which have propulsion plants for which there will be no operators in about another 5 years.

If we continue down that road, we are just going toward a dead end. We need a national maritime policy, which has been issued, and it must be enforced with steps that will cause the commercial industry to be revitalized.

Senator LOTT. Thank you, Admiral. General Vuono, with the likely downturn in the active duty component of the Army, do you

not see an increased responsibility for the Reserve components, in particular the National Guard?

General VUONO. What I see is an effort to ensure that we improve, as much as we possibly can, the readiness of the National Guard and the Army Reserve. We will do that through a combination of ensuring that proper recruiting is taking place so we have our units filled up; we provide them, as we have done in the past 4 to 5 years, the best equipment we possibly can. As we see the drawdowns in our Active forces, the availability of more of that equipment will be provided to our Reserve components; and finally, by stressing the improved training and techniques that will apply to the Army Reserve and the Guard. I think all of that, quality and readiness, is what we are going to do in the Reserve components.

Senator LOTT. I am sure as we look to the future we are not going to just be driven with regard to our reserve and National Guard units by the numbers game, or dollars, and I see some of that in this year's budget, in my own personal opinion, but I know we are reevaluating everything and I hope that we will be conscious——

General VUONO. In some cases this year, there were some reductions in force structure associated with the Reserve components and that was based to a degree on the overall look that we took at the force levels.

It was based on the fact that as we drew down the Active force, there were certain combat service support units in the Reserve components that were supporting these active units that would no longer be needed. We did not program Reserve component end-strength reductions in fiscal year 1991. We will be taking advantage of the total force study that is on-going right now, and that will be the basis upon which we will adjust those levels in the 1992 period and beyond.

Senator LOTT. General Gray, have you felt better this week after that gumbo you had last week?

General GRAY. Always, Senator Lott. Of course.

Senator LOTT. You commented last year in a speech during the commissioning of a WASP-class LHD that over 50 percent of our current amphibious ships will reach obsolescence by the turn of the century. What are your expectations now with regard to that program, and how do you think all these reevaluations will affect our needs in the amphibious ship area?

General GRAY. I think that when we complete the continuous evaluation and reevaluation of all these matters you will see a properly structured and funded amphibious sealift program. You have already commented about the concerns of overall sealift.

I think that in addition to what Admiral Trost has pointed out about our support for the national sealift policy, clearly, we support that as well. It is not just Defense, it is Department of Transportation. It is the unions. It is a whole host of parties who have to be brought together in a synergistic effort to resolve these issues.

I believe that we should continue to do some modeling while looking at technology in the future. I think that multipurpose use of technology has application in the sealift area; and, I see a congruence and a combination of amphibious lift and related type sealift capabilities as the way to go for the expeditionary forces.

Senator LOTT. Well, my time has expired but I would like to ask you one more question.

We have seen some articles this week indicating there may be a change with regard to the rigor of recruit training. Maybe that was with regard to the Navy, but I would like to know how the General views that with the Marines. Do you anticipate some change in that rigor of recruit training?

General GRAY. No. We will probably make it a little bit tougher.

Senator LOTT. Thank you.

Admiral TROST. Mr. Chairman, since that one was pointed at me, might I respond to what was behind what happened in the Navy?

Senator LOTT. Yes, sir.

Admiral TROST. I would not want the committee to be misled purely by reporting, so let me tell you some facts. There has been an on-going effort for some time now to reduce attrition not only among our recruits but in our advanced schools, and during en-route training.

It seems rather dumb to bring people in who have been screened and qualified for military service and then wash them out if the reasons are not good ones. The reasons in recruit training were several-fold. It had nothing to do with the rigor of the training. It had a lot to do with the shoes being worn by the personnel undergoing those rigors.

We find that today's society has not worn many hard shoes. That probably applies to most adults today, and so instead of telling people that they were medically disqualified because they got blisters on their feet in trying to break in a new pair of boondockers while running, we decided that jogging shoes might suffice to get them in the same physical condition. They might have fewer callouses on their feet. So we took that step. That has proven to be profitable.

We also decided that there were people in the Navy who would not have to swim 500 yards in a burning oil fire, and that there are a lot of people in this society of ours who have not learned to swim. So we put the emphasis on remedial training for swimming, so that not being able to meet the swimming requirement did not automatically wash someone out of the Navy if there was room for them to serve elsewhere.

We have taken other steps in our schoolrooms to make sure that people who were having difficulty with one aspect of the course were given remedial effort and opportunity, instead of just being kicked out because they had not been able to keep up with the majority of the group.

Senator LOTT. Let me ask a couple of questions. These are modern times. You have got to deal with that. I do assume you need sailors to be able to swim.

Admiral TROST. Absolutely, and those who cannot learn, and are initially assigned to a job where swimming might not be required, cannot be retained in the Navy unless they learn to swim.

Senator LOTT. Well, certainly we all know that the reporting is not always totally accurate, but as I remember that article it indicated something about how some guys were standing on the side saying, we are not able to do the push-ups, or we do not want to do the push-ups, or that sort of thing.

Admiral TROST. I cannot comment on the validity of that. I will simply say I doubt it, but I do not know where the reporter got his or her information.

Senator LOTT. That was not your intention?

Admiral TROST. That is not our intention. I do not believe that is a practice. As a matter of fact, I will state it is not, and if somebody can prove to the contrary, I will defend myself.

Senator LOTT. Thank you for your leniency, Mr. Chairman.

Chairman NUNN. Thank you, Senator Lott. Senator Thurmond, Senator Exon has yielded to you.

Senator THURMOND. I would like each of the Chiefs to answer the following question, and if you do not know the information, if you would provide it for the record. We will begin with General Vuono and go down the line. Each of the services has indicated that significant cuts in force structure will be made over the next several years, and that these cuts include both officer and enlisted billets. Would you tell us how many general officer billets will be eliminated by the reductions each of you is anticipating?

General VUONO. Senator, I do not have the exact numbers of flag officers we will eliminate over the 5 year period of time worked out yet, but I would tell you that when we reduce the size of the officer corps, that will involve the entire officer corps to include flag officers.

Admiral TROST. Senator Thurmond, I cannot give you a precise answer because I plan no reductions in flag officers at the present time. The Navy ratio is such that we have 80-plus authorized flag billets that remain unfilled, today. If I were to reduce any force structure that would free up a flag billet, I would fill one of those 80.

General WELCH. I would simply reflect General Vuono's answer. We are in the midst of recalculating the force structure requirements. We have already drawn down considerably. We have already drawn down flag officers, as you know, significantly over the last 10 years. So, they will come down. How much, I do not know.

General GRAY. Our plan through the year 2000 is to protect our officer/enlisted ratio at about 1 to 9 which, I think is very good. Within that construct, if you set a Marine Corps at the end of the century at 190,000, the general officer allocation would come down by two general officers. If it is 180,000, it would come down by 2 to 5, depending on the number of joint and combined billets we would have to fill.

Senator THURMOND. Would you furnish to the committee the information after you have arrived at a decision?

General VUONO. Yes.

Admiral TROST. Yes.

General WELCH. Yes.

General GRAY. Yes.

[The information follows:]

GENERAL OFFICER REDUCTIONS

General VUONO. Department of Defense has the issue of general/flag officer reductions under review.

CUTS IN FORCE STRUCTURE

General WELCH. At this point in time, OSD has provided no guidance regarding a possible general/flag officer reduction. Such action should be held in abeyance pending a comprehensive review of overall officer/enlisted force structure drawdowns and associated organizational realignments. Establishing quotas for senior officer reductions at this early stage of force reduction is premature. From the Air Force perspective, two other significant factors should be considered.

(1) Statutory grade tables authorize the Air Force to maintain 388 general officers based on an officer force of 102,000. Additional congressional guidelines, as implemented by OSD currently constrain the Air Force to a maximum of 338 general officers, a shortfall of 50 positions. If the current limit of 338 is used as an entry point in the grade tables, Air Force officer levels would be at approximately 72,000, a threshold far below any projected decreases in overall officer strength during the early 1990s.

(2) Since 1975, the Air Force has experienced a 12-percent reduction in general officer authorizations, despite only a 1-percent decrease in overall officer authorizations.

Senator THURMOND. Admiral Trost, last year you testified before the committee that antisatellite capability was an important requirement to enhance, among other things, fleet survivability. Is it still an important requirement?

General Vuono, do you have any views on antisatellite weapons, too? In other words, would such a capability be useful in denying the enemy information about the location and movement of Army forces?

Admiral TROST. I would state that the requirement still exists as stated last year, and it would be useful in combat situations or in conflict situations to deny an enemy locating data on our forces.

General VUONO. I agree with that, Senator.

Senator THURMOND. Admiral Trost and General Vuono, from a strategic and tactical user perspective, is the MILSTAR program a critical command control and communication system that is necessary to meet your future requirements?

Admiral TROST. It is for our entire military structure. It is structured and designed to meet requirements across the board for joint operations, and for individual tactical unit operations.

General VUONO. For joint operations, yes sir.

Senator THURMOND. General Vuono, the LHX program has been described as the Army's number one modernization program. In view of the changes that have occurred in Europe and the cuts in defense expenditure, what priority do you now place on the LHX program and what is the current status of the program?

General VUONO. It still remains our high priority, Senator, because it will meet a major battlefield deficiency we have, which is seeing the battlefield and reconnaissance. The LH will give us the capability to do that. In addition, we will put those light helicopters in our light forces in an attack role. So, it will provide an armed reconnaissance and attack capability for our light forces. It will provide us with modern leap ahead technology so that when we start to field this helicopter in the mid 1990 time frame, then we will have the latest technology and will not have 30 year old technology in our helicopters.

The program is on track right now, and we are very satisfied with how the program is proceeding. Notwithstanding the CFE negotiations and the potential reduction of forces in Europe, we still need that light helicopter.

Senator THURMOND. General Vuono, the Army's Dedicated Procurement program provides for the purchase of specific items of equipment needed to reduce Reserve component equipment shortages. Based on the information in your fiscal year 1991 Army posture statement, you have made significant progress in raising the equipment-on-hand readiness of Army Reserve units and National Guard units. Despite all the progress you have made, I hear reports that the Reserve components are still experiencing significant equipment shortfalls. Would you tell us what you consider the most critical equipment shortages in the Army's Reserve components?

General VUONO. We are seeing some shortfalls in some of the common items across the force: tactical FM communication gear; some medium cargo trucks; combat vehicle test jets; and material handling equipment. We believe that we have made great progress, as you have mentioned, Senator, in equipping the Reserve components. We think we will even be able to do better in the years ahead as we balance the reductions in the Active component, and as that equipment is freed up, more of that will become available to the Reserve components.

So, I am optimistic that over the next several years, we will make even better progress than we have in the past.

Senator THURMOND. General Welch, although the Soviet Union allegedly represents a diminished, conventional threat, its strategic capabilities are acknowledged to be improving because of modernization and technical enhancements. Although we seem to be preoccupied with the intercontinental missiles threat. I understand there may also be a Soviet bomber threat. What is a Soviet bomber threat and what are we doing to combat it? Additionally, there is a need to develop an air defense capability.

General WELCH. Well, sir, the Soviets continue to deploy both the Blackjack bomber and the Bear H bomber, both intercontinental capability, both capable of attacking North America. We made a decision some years ago that this country was not willing to make the investment required for a robust air defense against manned bombers. That decision was based on the relative threat from ballistic missiles and manned bombers and the very high cost of an air defense system.

So, the fact is that we do not have an air defense system against manned bombers really worthy of the name. I see no inclination to take on that expense. We have relied on deterrence as a means of insuring that we do not have to deal with those manned bombers, and I think that remains a most cost effective approach to dealing with those manned bombers. We simply have to continue to convince the Soviets that they dare not use them.

Senator THURMOND. I have a few more questions, but my time is up.

Senator EXON. Thank you very much, Senator Thurmond. Welcome, Generals. Admiral Trost, let me start with you. The Soviets, clearly, have a superiority in attack submarines, and have made significant advancements in the quieting of their submarines in general. Given that, our answer was the *Seawolf.*

I have been and am a strong supporter of the *Seawolf,* but the *Seawolf* costs are mounting far above those costs that were mandated by Secretary Lehman when this program came on line, and

while that might not be too surprising, in and of itself, I am worried about the fact that we might not be able to build a sufficient number of attack submarines in a logical, projected fashion to meet the threat of superiority of the Soviets in the attack submarine area. What is your feeling on this issue?

Admiral TROST. Let me begin by addressing the cost. The cost of the *Seawolf* program has not exceeded the level directed by Secretary Lehman in 1983. He put a cost limit in fiscal 1985 dollars because we were working on the fiscal 1985 program at that time, and the program today is below that cost limit, and the projection for the follow on ships remains below that limit as well. There has been a lot of reporting to the contrary, and it is incorrect.

The program itself is essential, as you know, to give us the continuing technology edge and capability to counter a sophisticated submarine threat.

I am concerned about the possibility of inadequate numbers in the future, because we continue to face a continually modernizing Soviet submarine force. Not currently politically threatening, but a capability, nonetheless, that we must factor into our plans.

We also face, around the world, an improving submarine capability consisting primarily of quiet diesel submarines. In the future, we will probably see nuclear submarines in the hands of countries that may or may not wish us ill. Several have expressed a very strong interest in such a capability.

My view is that in order to build adequate numbers of these submarines, we have to continue to drive the cost down as low as possible for a platform that still has the acquired level of technology and capability. We do need to maintain our business base, and that says, multiple producers which demands adequate numbers, so there is competition among the multiple producers.

Senator EXON. I take it then that the *Seawolf* is a top priority?

Admiral TROST. It is, yes.

Senator EXON. This might not be an unfair question, and it may be a very unpleasant question, but it is a question that we are going to be asking each other around this table as we formulate the future budgets. If it was necessary, for example, at some time in the future, to sacrifice one or two of the battle carrier groups to keep a reasonable production of the *Seawolf* on line, could you support that?

Admiral TROST. Well, I will answer the question in very general terms, since we are still wrestling with exactly what the force structure will be and what the trade-offs have to be in the period beyond this fiscal year.

We have striven throughout the last decade, as we enhanced naval capability, to maintain a balanced force. We would continue to do that. We know the value of our deployable carrier battle groups in meeting U.S. contingency response in crisis situations. We know that the level at which we are operating today is getting the job done. We also know that at lesser levels in the past we have had great difficulty in maintaining reasonable deployment durations, such that people would not stay in the Navy after they came back home. So, such trade-offs would be looked at very carefully. It is really your particular hypothetical question, a case of

trading off two items that are among the top two priorities for the Navy.

Senator EXON. Thank you. Let me turn to the strategic area, if I might, with you, General Welch.

I have two questions regarding the program, first with regard to the B–2 bomber and some of the claims that have been made in the recent GAO study. I first want to put to rest what I understand was one of the claims in the GAO study, and that was that we are going to buy 42 of the B–2s before we are convinced that the planes will do what they were designed to do. I suspect that that is absolutely not the case and I would just like to have you say in your opinion whether that is a factual statement or not.

General WELCH. Let me give you the basis for their statement so you will know what is fact, and that is we will have committed some funding to 42 B–2s before we complete all the scheduled testing. We will have delivered seven B–2s by that point in time, and note I said before we complete all the scheduled testing.

We have done testing at this point where we have no question in our minds about the airworthiness of the airplane and the engine. They work fine. We have been flying the avionics test bed since 1986, so all of the offensive avionics in the airplane are being flown in a test bed, not in a B–2 that will be a future airplane, but they are flying. Sixty-five percent of all the testing of the components is done. Thirty-five percent of the integration is done, just to give an example. We will begin the low observable testing in August this year, and we will have a firm handle on what our margin for error might have been, and I assure you it is fairly small. We understand the low observable business, so to imply that there will be major questions about the capability of the B–2 to perform its mission at that point in time is nonsense.

There will be bits and pieces of testing. There will be some continued changes that will obviously have to be made, and those will be tested, and that will be totally completed on a current schedule when the seventh production airplane is delivered.

Senator EXON. Well, I just might say that you are familiar, General Welch, with the hoops that this committee has set for the B–2 to jump through before we are going for all out procurement. I believe it is not fair to conclude that we are unalterably committed to the purchase of 42 such aircraft without adequate testing. Is that right?

General WELCH. It is absolutely untrue.

Senator EXON. Thank you. My time is up. Senator Gorton.

Senator GORTON. Admiral Trost, I would like to ask you a couple of questions about the Sealance program.

Yesterday, the Secretary of the Navy said, "The Navy's top warfare priority is antisubmarine warfare." On your written testimony you state, antisubmarine warfare remains my top warfighting priority. If antisubmarine warfare has such a priority, why has the Navy recommended terminating the Sealance, which apparently is its only long-range stand-off weapon in development?

Admiral TROST. Sealance is the only long-range stand-off weapon in development for both surface ships and submarines. It does have a continuing priority. The requirement has not changed, but we have been faced with very severe fiscal constraints and have con-

stantly revised downward our projections for 1991 and the out years during this past calendar year. In the process, it became clear that we could not expect to continue all the programs that were currently in research and development. We then essentially terminated all but a very small number of programs in that category, purely for fiscal reasons, recognizing that we are left with no stand-off capability beyond torpedoes for the *Seawolf* at the present time, and recognizing that we are left with only vertical launch ASROC in limited numbers for our surface combatants at the present time.

Senator GORTON. Then it really is not your top warfighting priority?

Admiral TROST. Wait a minute. One weapon, Senator, is not our top priority. Antisubmarine warfare, across the board, is our top priority, but there are a number of programs within that overall realm that we would like to have and we cannot afford. We have continued our research and development priorities by continuing the funding, despite the constant downturn in Navy resources. We have continued to emphasize the warfighting capabilities of our antisubmarine warfare platforms, and to modernize them again, to the extent that fiscal constraints permit.

Senator GORTON. Does this recommendation logically mean that you will also recommend terminating the *Seawolf* program, because Sealance is the only weapon that would give the *Seawolf* the ability to defend itself at ranges outside the range of current Soviet submarine-launched ASW weapons?

Admiral TROST. No, it does not. First of all, we have counted continually on our ability to maintain, through the exploitation of technology, a quieter submarine with better sensors, whose ability to attack first remains intact. We do have the capability to target beyond the range of our torpedoes in today's submarines. We do want the capability offered by Sealance. We also recognize that should our fiscal fortunes reverse, it is a lot easier and takes much less time to reinstate a weapon's program than it does to build the platforms.

Senator GORTON. Thank you, Mr. Chairman.

Senator EXON. I believe that Senator Cohen is next.

Senator WARNER. I wonder if Senator Cohen and I could yield to our colleague, Mr. Thurmond.

Senator COHEN. Without objection.

Senator THURMOND. Thank you. General Welch, yesterday Secretary Stone indicated that the Bush proposal will reduce our forces in Central Europe to 195,000, approximately 160,000 of which would be Army personnel. I expect that the remaining 35,000 would be Air Force personnel. Is my understanding of the situation correct, and what capability do you expect this residual force of 35,000 to have?

General WELCH. That is correct. The remaining would be Air Force forces in the overall theater. We have determined that the total numbers that would be allocated to the Air Force can provide a force of about six tactical fighter wings, which we regard as a reasonable force, considering the job to be done.

Senator THURMOND. Admiral Trost, the Persian Gulf war showed us that inexpensive mines planted by a Third World nation can

cause havoc to the sea lanes. I believe the Navy was caught short by this action and was not prepared to meet the challenge. What have we done to improve our mine sweeping capability, and what priority does this capability have in the Navy's budget request?

Admiral TROST. Let me answer that question in two parts, sir. We responded to that challenge initially by deploying our helicopter mine sweeping capability to the Persian Gulf, as an interim move, until we were able to deploy our older mine sweepers to the Persian Gulf to carry out the job, which they did very well.

We have, for a number of years, had ongoing programs in the mine warfare area to enhance our capability. The helicopters we deployed are being replaced by newer, upgraded CH-53's "E" variant, which have a much greater capability for mine sweeping, and which are rapidly deployable.

We have, in addition, two major minesweeping programs underway, one being the mine countermeasures (MCM) ship, four of which are now in commission. These are ocean-deployable ships that will give us a capability to hunt mines of all types in the areas outside the United States as well as off our shores, where we would have to operate.

We also have a program, the coastal mine hunter (MHC) program, which is in its early stages at the present time, with the first ships under construction. That is intended to provide us with 17 units which will not be ocean deployable, but which we can deploy off the coast of the United States to clear our ports and our channels.

We recently did a review of our mine countermeasures program, looking at the two shipbuilding programs plus enhancing the airborne capability. We decided that our overall requirements really dictated some additional procurement, probably eight of each type of ship, and another dozen or so of the minesweeping helicopters. Those programs will be highly dependent on what our fiscal resources are in the rest of this decade.

Senator THURMOND. The Soviet Union seems to be placing increasing importance on force projection by building a new series of aircraft carriers. What can you tell us about the Soviet carrier program and what threat does it pose to the freedom of the seas?

Admiral TROST. The current Soviet carrier program consists of three platforms. These are in addition to those ships that are already deployed—the four Kiev class and the older helicopter carrying cruiser.

The three new ships, the first of which, Tbilisi, has been at sea conducting trials and is currently in some sort of a post-shake down availability, provide the Soviets with the ability to project power and provide localized air superiority, much as we do with our own carriers.

Tbilisi has an airwing yet to be determined, but they have demonstrated a capability to operate a variant of both the SU-27 and the MiG-29 aircraft. These aircraft have been modified for carrier operations with folding wings and tail hooks. They have also demonstrated a capability to launch one other type of aircraft, the SU-25. So, we expect some variants, some combination of those aircraft, plus helicopters, to comprise the airwing of this carrier.

The second ship of the Tbilisi class is undergoing outfitting at the present time. The third ship is a different type of aircraft carrier. It is larger than the preceding two and it is under construction on the ways right now. We have no way of knowing what their future plans are for further platforms.

Senator THURMOND. General Gray, in October 1989, a Congressional Budget Office Report indicated that the Navy has a goal to acquire enough amphibious shipping to transport 50,000 troops and associated equipment. The study projects that this goal could be reached by 1998, but at a cost of $4½ billion. Considering that the 50,000 man force would be much larger than what has been required in any amphibious assault since World War II, how does the Department of the Navy justify the need to transport a force this size?

General GRAY. Senator, that is a way of describing a requirement when you talk about the lift for Marine Expeditionary Force. We have, in fact, three Marine Expeditionary Forces strategically located around the globe. We need to be able to move in both oceans and quite often, if not always, the warning time and that does not permit you to move back and forth between oceans. And, of course, there is also a need for amphibious combatant ships to have overhaul and that type of activity as well.

The demanding requirements for your Marines since the NATO alliance in the global war plans, both in Europe and in the Pacific, are for two, not one Marine Expeditionary Forces to be the strategic reserve and the rapid reinforcement in case of the European scenario and similar kinds of power projection needs in the Pacific.

So, the requirement to lift a Marine Expeditionary Force and a Marine Expeditionary Brigade, coupled with the maritime preposition force capability and the associated airlift that is capable of doing that today, that gives you the ability to move your Nation's expeditionary forces anywhere around the globe very rapidly and in such a way that you can close them with the sustainability essential to prosecute the campaign.

Senator THURMOND. General Gray, I just have one last question. On page 7 of your prepared statement, you identified the need for 250 C–141 equivalent strategic airlift sorters to deploy the Marine Brigade of 17,000 personnel, 60 helicopters and 10 tactical fighter aircraft to Norway.

First, I am somewhat surprised that you acknowledged the Marines will be transported into battle by the Air Force.

Second, considering your need for strategic lift, have you evaluated the capability of the C–17 and will this aircraft improve your capability to deploy those forces aligned with the maritime preposition ships?

General GRAY. Thank you very much, Senator. It gives me a chance to say that Marines also go by air. For many years now, we have been organized, trained and equipped to use the Nation's airlift, as do our colleagues in the Army. And, because we task organize, we can be light enough to do whatever has to be done and heavy enough to win. We have a pretty flexible posture.

The 250 aircraft for Norway, like the 250 aircraft requirement for the maritime preposition capability, shows you the advantage of having geopolitical positioning or maritime prepositioning, this is

so, because you can get a huge force where you must have it, when you need it, and you can sustain it for a period of 30 days.

We support the C–17 program because the requirements to lift marines and soldiers remains. We think that the C–17 program has enormous usefulness in the lesser developed regions of the world.

I recall my testimony in 1980 before this distinguished committee, during the rapid deployment force hearings. And, you will recall that at that time, we brought in the maps of the unapproved air surfaces and air fields around the world. That was the big operational lever to support the C–17 type concept. We continue to support that effort, sir.

General VUONO. Senator, could I add my support on the C–17? As General Gray said, whether you are moving soldiers or marines, the C–17 gives us a tremendous strategic and tactical capability that we can ill afford to pass up in the years ahead.

Senator THURMOND. I assume you still favor it?

General VUONO. Absolutely.

Senator THURMOND. I want to thank you, gentlemen, for your presence and also commend you for the fine job you are doing.

Mr. Chairman, I ask unanimous consent that my opening statement follow that of the distinguished ranking member, Senator Warner?

Senator EXON. Without objection, that is so ordered. Thank you, Senator Thurmond.

We are in our second round of questioning now. Senator Thurmond has had his second round. I will now recognize Senator Warner and then we will go back to the usual procedures.

Senator WARNER. I will yield to Senator Cohen because I am going to remain here for some time.

Senator COHEN. If I could just respond. Admiral Trost, you indicated that there is a malaise that has overtaken our maritime industry. I would respectfully suggest, it is not malaise, but more marketplace blues that has overtaken the maritime industry.

There is a tremendous, pent up demand for new ships worldwide. There is a tremendous capacity here in the United States to produce those ships. The difficulty is that we have got trading partners who do not operate under the same rules.

You are probably familiar with a book Mr. Morito, Chairman of Sony Corporation, co-authored called "A Japan That Can Say No." He said some rather harsh things, some harsh truths, I might add, in that little booklet. He said, for example, that a nation's prosperity is directly tied to its productive capacity. That was point number one.

Point number two was that Japan, day by day, was gaining in its productive capacity over its competitors. That is also true.

The third point he made was that the United States is good at one thing today, and that is pushing money around with corporate take-overs and leveraged buy-outs, that we are losing, day by day, our productive capacity. And that also happens to be true.

There was an arrogant, contemptuous tone, I might add, to that particular book, but there was a lot of truth in what he had to say.

One of the reasons why we have lost our productive capacity is because some of our trading partners, namely in Europe, Japan as well, continue to subsidize their shipbuilding industry. It is not as

great a differential in Europe as it is with Japan and not as great in Japan as it is with South Korea.

But, it seems to me that we are never going to have a maritime industry as long as we tolerate practices which put us at a competitive disadvantage, and that is why a number of us have written to the administration, insisting that we start seeking trade sanctions against those countries under section 301 of the trade act, to stop the practice of subsidizing. Once we do that, then we can, in fact, start building a maritime industry, because we have the productive capacity. We just cannot compete when we are at such a great disadvantage.

This does not call for a response. I just wanted to point that out.

Admiral TROST. I would say I agree with you completely.

Senator COHEN. Now, I would like to turn to the Air Force, if I could, General Welch. There was some misreporting, in my judgment, last week when a draft report from the GAO was leaked to a House committee, which in turn ended up in the press. One network, in fact, literally accused the Air Force of having lied to the Congress over the cost of the B–1. It turned out during the hearing that, in fact, it was somewhat confusing in the draft report's language with respect to the B–1, because there was a report that the Air Force had understated it by about $7 billion in terms of its cost, and the implication was almost a deliberate or at least a willful or reckless disregard for what the true facts were.

It turned out that the SAR reporting to Congress, in fact, was very close to that of the GAO. And, so there was no misrepresentation or inadequate representation to the Congress on the B–1.

But, I would like to turn now to the B–2. The chairman has raised this as an issue. I think last year you indicated that the operation and maintenance costs of the B–2 over its life cycle would be about $35 billion. Is that still the figure?

General WELCH. That number will go down, but that was the number we had last year.

Senator COHEN. And that did not take into account the construction costs for the shelters?

General WELCH. That is correct.

Senator COHEN. Now, the Air Force under its counting rules as I understand, would like, under a start agreement, to have more than 6,000 warheads, is that correct?

General WELCH. Not the Air Force.

Senator COHEN. Well, the Pentagon, the administration. Someone wants more than 6,000 warheads, right?

General WELCH. That is correct.

Senator COHEN. Under the counting rules that have been agreed upon, a B–1 carrying air launch cruise missiles, even if it were to carry, let's say, 20 weapons, it would count as 10. Is that correct?

General WELCH. That looks like where the agreement is going, yes, sir.

Senator COHEN. So, if you were to have the full complement of the B–1s outfitted as air launch cruise missile carriers, you could exceed the counting rule of the 6,000 limitation by at least a thousand warheads?

General WELCH. That is correct.

Senator COHEN. With respect to a rail garrison, the GAO has made a recommendation that the Air Force is, number one, going forward a bit too quickly that they are planning to procure about three quarters of the missile launch cars before operational test and evaluation has been completed, and that the so-called initial low rate production on the rail cars as planned for April, is really a full rate production decision in disguise. Could you respond to that, please?

General WELCH. I would certainly respond to the implied question of concurrency. I am not familiar with the contract that you described, but we have been studying, investigating this whole process for 8 years, as you know, before we embarked on the first piece of contracting for that program. Rail cars are a fairly low risk effort in this Nation, and we regard the concurrency as not an issue on the Rail Garrison program.

Senator COHEN. Let me read what the GAO has said. I have got about 6 or 7 pages and I would ask that it be placed in the record, Mr. Chairman. What the GAO report indicates is that although the Air Force considers this to be a low technical risk, the test and evaluation master plan identifies some unique characteristics of the program that require testing. I am going to just name them for a moment.

The capability of the train to withstand missile launch effects, for example, the impact of ejection upon the missile canister and pressure shock and heat from the first stage of ignition. The launch effects on commercial railroad track beds and the ability of the train to resume mobile operations after a launch. The capability of the guidance and control system to recover specified levels of accuracy following rail transit, and it goes on in this fashion.

So, the GAO recommends that perhaps you at least wait before going forward with the so-called low rate production, which would be about two thirds of the rail cars this April, and delay that until well into 1991. Could you explain what the rationale would be for going forward at a faster rate beginning in April?

General WELCH. I think it is a straightforward rationale. The whole objective was to reduce the vulnerability to go to the rail and we understand that there is a certain urgency in that. We have assessed the concurrency risk as being quite low, and the GAO report, which we are currently evaluating, has not caused us to decide that the concurrency is considerably more risky than we thought it was before the GAO wrote their report.

Senator COHEN. Mr. Chairman, could I ask one final question?

Senator EXON. Go ahead, Senator Cohen. By the way, any of the material that you requested is entered in the record without objection.

[The GAO report follows:]

REPORT TO THE SECRETARY OF DEFENSE: ICBM MODERNIZATION; Rail Garrison Production Decision and Launch Car Acquisition Should Be Delayed

GAO

United States
General Accounting Office
Washington, D.C. 20548

National Security and
International Affairs Division

B-223636

December 7, 1989

The Honorable Richard B. Cheney
The Secretary of Defense

Dear Mr. Secretary:

As part of our periodic reviews of the Air Force's intercontinental ballistic missile (ICBM) modernization efforts, we evaluated the current and planned land-based ICBM force structure. During our review you announced that the 50 Peacekeeper missile force will be rebased from the silos at F.E. Warren Air Force Base, Wyoming, to rail garrisons at various Air Force installations. This report discusses how your announcement provides an opportunity for the Air Force to revise its missile launch car acquisition schedule and more fully consider operational test and evaluation results before deciding to begin initial and full production of the system.

Results in Brief

Initial operational capability[1] for the rebased Peacekeeper missiles is planned for 1992, and full operational capability of all 50 missiles is expected to be achieved in 1994. To meet these milestones, an initial low-rate production decision for the missile launch cars is scheduled for April 1990, and a final full-rate production decision is scheduled for March 1992. The final production decision will be supported by the results of a completed operational test and evaluation program, but no operational test and evaluation of the complete weapon system (missiles and rail cars) will have been conducted prior to the initial production decision. Additionally, the Air Force plans to purchase about 73 percent of the missile launch cars in connection with the initial production decision. Such a large purchase would, in effect, amount to a full-rate production decision in the absence of any operational test and evaluation of the complete weapon system.

Since the missiles to be rebased on rail cars are already on alert in silos, your announcement provides an opportune time for the Air Force to reassess its Rail Garrison acquisition strategy and restructure the production program. The restructure should provide for (1) delaying the

[1]Initial operational capability for the Rail Garrison concept has been [illegible] as the time when [illegible] with two missiles plus one train for use in training.

initial production decision until after some operational test and evaluation of the complete weapon system has been conducted and (2) procuring most basing hardware after the operational test and evaluation program has been completed.

Background

The Rail Garrison concept involves placing a force of 50 missiles on 25 trains, each carrying two Peacekeeper missiles. The trains will be parked inside train alert shelters in secure garrisons at Air Force bases throughout the continental United States. The missiles will be kept on the trains in continuous strategic alert. In the event of national need, the missiles will move onto the nation's railroad network. If necessary, the missiles can be promptly launched from within the train alert shelters.

The Air Force's 1988 Selected Acquisition Report estimates Rail Garrison basing acquisition costs to be about $6.8 billion in then-year dollars. This estimate includes costs to develop and procure trains and other basing hardware, facility construction, land acquisition, and five basing verification flight test missiles. It does not include the cost of the 50 missiles in silos that were purchased for the Peacekeeper program.

Rail Garrison Production Decisions Will Precede Operational Testing

According to the Air Force's current acquisition milestones, no operational test and evaluation of the complete Rail Garrison weapon system will have been conducted at the time the initial production decision is scheduled to be made. Also, current program office plans indicate that the majority of missile launch cars will be purchased in connection with the initial production decision rather than after the final full-rate production decision, as intended by Department of Defense directives.

Opportunity to Delay Production Decision

The Department of Defense's policy on major weapon system acquisition stresses the importance of minimizing the time to develop, produce, and deploy major systems for use by operational forces. However, we have maintained that even in expedited programs, as is the case with Rail Garrison, decisionmakers should have some information to assess a weapon system's operational performance before production begins. Therefore, we have stated that, at a minimum, some operational test and evaluation should be performed before proceeding into production.

Operational test and evaluation assesses a weapon system's effectiveness and suitability when operated and maintained by military personnel in an environment that is as operationally realistic as possible and

practical. Operational test and evaluation results are required to be available before major decisions regarding production are made, even though the necessary corrective actions identified through operational test and evaluation may be undertaken after production begins. In a prior report,[2] we recommended that the Director, Operational Test and Evaluation, ensure that sufficient operational test results are available to warrant production start-up. The Department of Defense concurred with the recommendation.

In the case of Rail Garrison, the initial production decision is scheduled for April 1990. At that time about 2 years of the scheduled 4-year test program will have been completed. Most of the testing that is scheduled to be completed and used to support the April 1990 decision will be developmental testing of preliminary designs of individual subsystems.

The April 1990 initial production decision is to be supported by an early operational assessment prepared by the Air Force Test and Evaluation Center. However, an Air Force Operational Test and Evaluation Center official advised us that, in the absence of systems level operational testing, the scope of the early operational assessment will be limited and that the primary thrust of that document will be an appraisal of the schedule for providing operationally representative systems for the operational testing required to support the March 1992 full-rate production decision.

The Air Force considers the Rail Garrison program as a low technical risk because it views the program as basically an engineering effort to integrate proven missile systems into the existing rail industry. However, the Rail Garrison Test and Evaluation Master Plan identifies unique characteristics of the Rail Garrison program that require testing. These include

- the capability of the train to withstand missile launch effects (e.g., impact of ejection from the missile canister and pressures, shock, and heat from first stage ignition),
- the launch effects on commercial railroad trackbeds and the ability of the train to resume mobile operations after launch,
- the capability of the guidance and control system to recover specified levels of accuracy following rail transit, and
- the effects of horizontal basing and rail movement on Peacekeeper missile performance and reliability.

[2]Production of Some Major Weapon Systems Began With Only Limited Operational Test and Evaluation Results (GAO/NSIAD-85-66, June 18, 1985).

According to the Test and Evaluation Master Plan, flight testing to demonstrate the capabilities is scheduled to begin during the third quarter of calendar year 1991.

Until now, the Air Force's Rail Garrison acquisition strategy has been based on a Peacekeeper force of 100 missiles: 50 based in silos and 50 based on rail cars. However, your recent announcement reflects a 50 missile force, all of which will be based on rail cars. Because there currently exists a 50 missile force based in silos, which was declared to be fully operational by the Strategic Air Command on December 31, 1988, there may not be a need to expedite the rebasing process. Therefore, we believe this is an opportune time for the Air Force to reassess its Rail Garrison acquisition strategy with a view toward restructuring the production program. This restructure should provide for (1) conducting some operational test and evaluation of the complete weapon system before the initial production decision is made and (2) procuring most of the Rail Garrison basing hardware after the operational test and evaluation program has been completed and the final production decision has been made.

Delaying the initial production decision until some operational test and evaluation of the weapon system has been completed would ensure that decisionmakers are more fully informed on the operational effectiveness of the system before starting production. A delay in the production decision from April 1990 to the third quarter of calendar year 1991, when the first flight test of the complete weapon system is currently scheduled, could result in a comparable delay in initial operational capability. However, the delay could help preclude potential cost growth, schedule slippages, and performance shortfalls that weapon systems have historically experienced during the later years of program development. Our concerns in this regard are increased by the fact that, as discussed in the next section, the Air Force currently plans to contract for the majority of missile launch cars in connection with the initial production decision.

Need to Reassess Missile Launch Car Acquisition Schedule

Department of Defense directives state that low-rate initial production is the production of a system in limited quantity to be used in operational test and evaluation for verification of production engineering and design maturity and to establish a production base.

According to the program office's current preliminary acquisition plans, 38 of the 52 operational missile launch cars to be procured (includes 2 spare cars), or 73 percent, will be contracted for in connection with the

initial production decision. Under this plan, the Air Force plans to request about $2.6 billion of the $3.5 billion budgeted for Rail Garrison hardware procurement before the March 1992 full-rate production decision. All of the launch cars acquired with procurement funds are for operational trains; launch cars for developmental and operational test and evaluation are being acquired through research and development contracts. We believe that buying 73 percent of the operational launch cars in connection with the initial production decision would exceed the "limited quantity" intended by Department of Defense directives. These directives clearly state that the commitment of the majority of a program's procurement funds should be predicated upon a full-rate production decision supported by the results of adequate operational test and evaluation.

The former Secretary of Defense stated in May 1988 that the number of trains to be acquired on the initial production contract would be an issue for the Defense Acquisition Board to discuss when it meets in April 1990 to authorize the initial production.

Recommendations

We recommend that you delay the April 1990 initial Rail Garrison production decision until the Air Force has conducted some operational test and evaluation of the complete weapon system. We recommend also that the Air Force's current acquisition schedules be revised so that the majority of the operational launch cars are not procured until after a final production decision, based on a completed operational test and evaluation program, has been made.

Scope and Methodology

This report is based on our continual monitoring of the Air Force's efforts to sustain and modernize the land-based ICBM force. We accumulated and analyzed information on the history of the Rail Garrison and Peacekeeper in silos acquisition programs, including applicable regulations. Air Force and Department of Defense documents issued during the planning and development of the systems, test plans and results, and the rationale behind management decisions.

We performed our work at the Ballistic Systems Division, Norton Air Force Base, California; the Office of the Secretary of Defense, Air Force Headquarters, and the Federal Railroad Administration, Washington, D.C.; and the Strategic Air Command, Offutt Air Force Base, Nebraska. We did not obtain written agency comments on this report. However, we discussed the details of the report with officials from your office, Air

Force Headquarters, and the Ballistic Systems Division and incorporated their comments as appropriate. We conducted our review from October 1988 to October 1989 in accordance with generally accepted government auditing standards.

As you know, 31 U.S.C. 720 requires the head of a federal agency to submit a written statement on actions taken on our recommendations to the House Committee on Government Operations and the Senate Committee on Governmental Affairs not later than 60 days after the date of the report. A written statement must also be submitted to the House and Senate Committees on Appropriations with the agency's first request for appropriations made more than 60 days after the date of the report.

We are sending copies of this report to the Chairmen, House Committees on Government Operations and on Armed Services and Senate Committees on Governmental Affairs and on Armed Services; the Secretary of the Air Force; and the Director, Office of Management and Budget. We will also make copies available to others upon request.

Please contact me at (202) 275-4268 if you or your staff have any questions concerning this report. Other major contributors to this report are Steven F. Kuhta, Assistant Director, and John J. Klotz, Evaluator, National Security and International Affairs Division, Washington, D.C.; and James Dinwiddie, Evaluator-in-Charge, Los Angeles Regional Office.

Sincerely yours,

Nancy R. Kingsbury

Nancy R. Kingsbury
Director, Air Force Issues

Senator COHEN. What are the numbers, with respect to what we have spent thus far, for SDI research and development? Can you give me a ballpark figure?

General WELCH. No, I really cannot. I would have to get that for you.

Senator COHEN. Would it be roughly in the neighborhood of about $20 billion?

General WELCH. That certainly sounds reasonable, but I can get you the number for the record.

[The information follows:]

Money Spent for SDI Research and Development

The SDI program has spent the following amounts for research and development (Program Total = $18.1B):

FY	FY 84	FY 85	FY 86	FY 87	FY 88	FY 89	FY 90
($B)	.05	1.41	2.67	3.26	3.55	3.67	3.57

Senator COHEN. Would you favor going forward and deploying an SDI program based upon what we have already invested?

General WELCH. I think that none of us are in any position to decide at this point in time, that we know enough about cost schedule and performance, to make a decision to deploy.

Senator COHEN. So, the fact that we have costs of some $20 billion would not necessarily dictate whether we should go forward with the deployed system or not? That should depend upon national needs, the nature of the threat, assessment, budgetary constraints in the future, is that right?

General WELCH. Most assuredly. My recommendation, of course, is we proceed with the technological work that is going on, so we can make that decision on an intelligent basis.

Senator COHEN. I raise that because one of the major arguments that has been set forth is that because we have spent roughly $23 billion on the B–2, that should be a major factor for us to deploy the B–2. Would you agree that that is the compelling argument now?

General WELCH. No. I would say the major argument for the B–2 is that it is a successful program and the need is very much there.

Senator COHEN. Thank you very much, Mr. Chairman.

Chairman NUNN. Senator Exon.

Senator EXON. Mr. Chairman, thank you very much.

General Welch, let me get your reaction to some misunderstanding on the shelters for the B–2. We had testimony before the committee by the Secretary of Defense that the shelters are necessary at a cost of about $2 billion, or $12 million per shelter, because the plane could not be fully operational without those shelters.

The Northrop people have come to me and said that is not accurate, that the planes can be fully operable without those expensive shelters as designed by the Air Force, that naturally if we build those shelters, the operational costs might go down, but not being in shelters would not affect the reliability of the aircraft getting off

the ground or have anything at all to do with the deterioration of the stealthiness of the aircraft.

What is your position on this, and sooner or later, this matter of one shelter for each B–2 is going to be, I think, a very divisive argument. Can you help us out?

General WELCH. Most assuredly. I am the source of the requirement for the shelters, and I am the source because I was the commander of the Strategic Air Command, and I observed in all too many occasions, people working on B–52s in subzero temperature with high winds at heights 30 or 40 or 50 feet above the concrete with heavy clothes on and gloves, trying to do the kind of work that it takes to generate bombers and maintain bombers on a day-to-day basis.

It occurred to me, as I watched all of that, that it must be more economical to provide a better environment in which people could work on large airplanes around the clock, day and night. And so we did a fairly exhaustive study on the economic benefits of maintaining large airplanes, the same way you expect people to maintain your automobile, which is in a garage. And, it turned out that economically, it has lots of pay offs.

The first pay off is it costs you less to maintain the airplane. It costs you less to maintain the airplane because your people work more efficiently and the airplane lasts longer.

Second, you can generate the aircraft much more rapidly. You can bring the aircraft to alert status much more rapidly. To generate an airplane at Minot or Grand Forks, for example, in the middle of the winter, you often have to have your people work for only 15 minutes, and at the end of that 15 minute period, because of health, they have to go in and warm up, and then they can go out and work for another 15 minutes.

That is the kind of conditions under which we have asked our people to maintain airplanes and generate bombers for years. It seemed to me that it is pound foolish to continue that process.

Now, I come to the B–2. We had the opportunity on the B–2 to correct a long standing, silly way of doing business. Second, there are additional factors on the B–2. The B–2 is a very robust airplane. Composites are very tough, it is as tough as steel to most kinds of treatment. However, when you have to repair composites, then you do have to have a climate controlled environment in which to repair a composite, so obviously, you must have a number of maintenance hangars.

You would not, for that purpose, have to have a hangar for every airplane, but having a hangar for every airplane is like having a garage to work on your car. It is cheaper, it is more efficient, you get an economic return that far exceeds the investment. It just seems to me to be a sensible thing to do, so the answer to your question—can we operate B–2s without the additional hangars—of course we can. Would it be smart to operate B–2s without the additional hangars? It would not be smart, it would be foolish.

Senator EXON. Well, General, did you not envision one hangar for every B–2, or not?

General WELCH. Yes, sir. In fact, it is cheaper to build one hangar, to build individual B–2 hangars than it is to build large multi-aircraft hangars that we traditionally build for maintenance.

Senator EXON. I am not saying that people should work out in the cold, and I do not believe that people routinely work out in the cold a great deal on our commercial fleet. I wish you could convince me somewhere along the future as we proceed on this course that we need one hangar for every B–2 aircraft. I mean, that is a little hard for me to understand, but I will be listening to you on this matter.

Let us talk philosophically for just a moment about ICBM modernization—and my time is just about up so if you could answer these as quickly as you can. In a perfect world, where we did not have to worry about existing inventories of ICBM delivery vehicles—in a perfect world, I assume you would agree that all nuclear missiles would be best deployed in a mobile system, therefore we would have more stability. Is that right?

General WELCH. Certainly.

Senator EXON. Given the reality of the real world as we move into ICBM modernization that I think is a must, and I am sure that you do also, how are we going to wrestle with this fact, and what are the chances, as some have suggested, that we do away with our planned mobile ICBMs of 50 for a larger number of Soviet mobile ICBMs?

Some people are suggesting that we not agree to that, given the fact that the Soviets have 308 SS–18s in ground silos. Is that not almost an impossible task for us to assume that the Soviets are going to scrap all of those 308, or take them down to only 50?

General WELCH. Well, certainly it has been our judgment that the Soviets had to swallow very hard to go from 308 to 154, which they have agreed to, but even with 154, that obviously poses a tremendous threat to silo-based ICBMs, which is the reason for suggesting that we go rail mobile in the first instance.

I have found—and I agree with what you said. I would agree. It is my judgment that there is a very low probability that we will persuade the Soviets to trade that off. I say that, though, with more than usual humility in that the Soviets have constantly surprised me in recent years as to what they are willing to do. But my current judgment would be that it would still be extraordinarily difficult to persuade the Soviets to do that.

Senator EXON. Thank you, General. Thank you, Mr. Chairman. My time is up.

Chairman NUNN. I have one brief question, General Welch. We will never know that until we try, will we?

General WELCH. I agree.

Chairman NUNN. Senator Warner.

Senator WARNER. Thank you, Mr. Chairman. Mr. Chairman, I would like to associate myself with your earlier remarks about this period of history in which we have witnessed in Eastern Europe and elsewhere, now, in Nicaragua, the march for democracy, and how we say with certain humility here in the United States. Nevertheless, it has been a leadership provided by our several Presidents, not any one, and the contribution made by the men and women in the Armed Forces since World War II, together with the American public financial supporting our efforts, that has brought about in large measure these dramatic events.

As Senator Nunn said most eloquently, it involves many, many people ever since the closing days of World War II, and we wish as a Congress to pay our respects to those contributions.

I would like now to turn again to this article in the Washington Post, Admiral Trost, and I am going to ask unanimous consent that the article be reprinted following my questions of the Admiral here.

Did this article flag in your judgment any bigger problem than boots and shoes? I am not concerned about using soft shoes for the first 30 days, but what I am concerned about is the possibility that this experience that you are now having with the young men and women coming in might be reflective of a different type of individual that is coming to the armed services, and indeed, in parallel to the American private sector.

Admiral Trost, I understand that the Navy has some statistics that indicate that the new recruits—now, your statistics show that 90 percent of them are high school graduates, but the average reading level is at 9th grade. Could you comment on that? Is that an accurate report?

Admiral TROST. Well, it probably is accurate, Senator Warner. We have found, over the years, that our educational system is not producing the quality of individual we have seen in the past.

Senator WARNER. That is my question. Does this reflect on the greater issue? Namely, our educational President and the need for him to direct greater emphasis to our educational system. You are simply providing the statistics of a cross-section, but an important cross-section of these young people coming into the job market.

Admiral TROST. I think it is quite important for us to focus on the educational system, because in my opinion, it has, by many measures, declined over the years. Elementary and high school education do not appear to produce the product they did 40 or 50 years ago.

Senator WARNER. Where is that curve? Is it still on the decline?

Admiral TROST. I suspect it is, based on the fact that we have not only a lesser interest in, but a lesser aptitude for, technical and scientific education in this country among our high school graduates than we used to have in the past.

Senator WARNER. So the bottom line is, we are getting—and I will ask the other chiefs to comment—today, a young man or a young woman with less technical skills, less reading skills, and that this curve is continuing to decline?

Admiral TROST. That is a generally true statement. That is not a reflection on the ability of young people to be trained, because we find that they assimilate their training very well. We have to ensure, however, that our courses are structured to the level to which they have been educated before we get them, and we pick up from there.

Senator WARNER. In other words, you have a starting point——

Admiral TROST. We have a starting point and we try to make a much better product out of them.

Senator WARNER. And that starting point has been going down through the years, but once you can get them in your environment and provide discipline and leadership and competition between them, then they are equally able to learn?

Admiral TROST. That is correct. They have a motivation and a goal, and with that motivation they do very well.

[The Washington Post article referred to follows:]

'New Navy' Eases Boot Camp Rigor

Attrition Among Recruits Forces Softening of Conditions

Washington Post 2-26-90

By Molly Moore
Washington Post Staff Writer

p. A1

ORLANDO, Fla.—At 0700 the Grinder was covered with hundreds of panting Navy recruits struggling through push-ups on the cold, damp concrete. Amidst the swarm of sweating bodies, three recruits stood idle, breathing heavily.

"What's going on here?" bellowed an impatient drill instructor, glaring at the trio that refused to keep up with other classmates.

"It's that new Navy, sir," snapped their frustrated company commander.

That new Navy, confronted with dwindling dollars and soaring attrition rates among a new generation of youth more at home on the couch than the exercise field, is changing one of its most symbolic rites of passage—boot camp.

Recruits are no longer required to wear heavy, steel-toed chukka boots in their first weeks of training; they keep their jogging shoes because too many youths were suffering muscle strains and other injuries. The mandatory swimming requirement—long a staple of the sea service—has been eliminated. And instead of a snarling drill instructor, a soft-spoken chaplain greets the future sailors and airmen when they step off the bus at the Orlando Naval Training Center here.

"We don't have the luxury of dumping recruits that don't measure up as quickly as we'd like," said Capt. Tom Holme Jr., who heads the center's recruit-training program. "We don't destroy a kid to build a sailor out of a quivering mass of jelly left on the deck. We don't baby them, but we don't terrorize them."

In recent years, the Navy has been losing one-third of its new enlistees between the day they entered boot camp and the time they were eligible to reenlist at the end of their first tour. Many of those recruits, according to Navy officials, never made it past the initial ego-wrenching, body-aching days of boot camp.

"If we keep throwing away about one-third, given the tough recruiting market and lessening numbers of enlistment-eligible people in this country, we are fighting a losing battle unless we do something to stop the exodus," Vice Adm. J.M. Boorda, the Navy's personnel chief, wrote in a memorandum distributed to service commanders last year.

As a result, Boorda ordered major changes at the Navy's three basic training centers, in Orlando; Great Lakes, Ill., and San Diego, where 95,000 fresh enlistees get their first taste of Navy life each year.

Initial figures indicate that boot-camp dropout rates at the Orlando training center have been reduced from 10.5 percent to about 8 percent since the program began last summer.

According to center records, the number of men and women who are ousted for "non-adaptability to military life" is one-fifth the level it was the year before the new initiatives began. And attrition blamed on attitude problems is one-third the previous level.

The percentage of recruits dismissed for other reasons, however, such as failed drug tests, homosexuality and personality disorders, has increased.

Training officials caution that the new training program is too new to draw definitive conclusions from the statistics. "Are we just delaying attrition to a future school or the fleet?" Holme asked. "We don't know."

And some Navy officials are grousing that the rush to cut attrition may soften boot camp too much and force the Navy to accept enlistees who should not remain in service.

"Attrition is not necessarily bad," Holme said. "We want to identify some people who ought not be in the Navy." Holme said statistics have not proven that allowing recruits to wear soft-soled shoes instead of Navy-issue boots for the first three weeks of training is cutting down on foot and leg problems.

And he has another concern. "It's really not all that military looking when you have people wearing blue and green and purple shoes." As for eliminating swimming skills as a requirement to graduate from boot camp, "It's my personal opinion that anybody who wants to join the sea service ought to know how to swim."

The Navy and other military services are inheriting even more troubling societal problems from the civilian world than youngsters with flabby muscles. Even though the young men and women enlisting in the armed forces today score better on entrance tests and have higher levels of education than any recruits in the history of the volunteer forces, officials here estimate that as many as 25 percent of their recruits—most with high school diplomas and many with some college education—read at eighth-grade levels or below.

"We've got college grads in nuke [nuclear training] school that can't read," said Rear Adm. Louise C. Wilmot, commander of the Orlando center.

Large segments of training time are devoted to remedial reading programs to help give the future sailors and airmen the skills they will need to use the technical manuals of today's sophisticated weaponry and equipment.

Remedial reading classes here are jammed to capacity. And instructors say far more than the current 165 students per week need the services.

"We're maxed out. We don't have enough desks for all the students," instructor Jill Harvey said. "If we had the classrooms and the teachers we could take 250 a week."

And there are still other problems. Training officials criticize what they say is the Navy's inadequate medical screening program that sent them 146 pregnant recruits last year. Orlando is the only training facility for women enlistees.

Most new recruits are oblivious to all those naval concerns before they arrive for their mandatory nine weeks of boot camp.

For most of his daylong airplane flight from Portland, Ore., to Orlando, Shawn Karns, 20, had been anticipating the worst when he stepped off the bus in front of the cinderblock recruit receiving center here.

"I thought there would be a lot of screaming and yelling—'Get in line and shut up!' " he mimicked.

Instead, the busload of nervous enlistees was greeted by soft-spoken Lt. Cmdr. Ed Newhouse, base chaplain.

He began in his most reassuring Sunday morning voice, "You're going to think this is impossible. But you're going to make it and you're going to talk and laugh about this place the rest of your life. We're here to help you get through boot camp."

That is not to say, however, that young recruits have an easy time of it.

"The first night I didn't sleep," said Elizabeth "Jenny" Dryson, 19, of Minneapolis. "The second day I was so sick, I threw up, the transition from civilian life to basic training was so drastic. When I wrote letters home, I told my family to pray for me."

George Torres, 20, of Chicago, was jolted out of his bed on his first morning at boot camp by a company commander who heaved a garbage can across the barracks. "We were out of the rack before it hit the floor."

"We have to break civilian attitudes and build military attitudes," said Lt. Zena Maxies, 28, a company commander.

That means no "gedunk" (candy, soda, comic books), no getting chatty with recruits of the opposite sex when you pull galley duty and, for the men, no hair. Some customs die hard.

Before dawn each morning, the newest batch of arrivals lines up outside the base barber shop. Inside, Lee Roy Deese and Bob Choser stand behind their chairs, electric razors in hand. Less than two minutes after a curly-haired recruit slides into the chair, his locks lie in a heap on the floor.

"We are part of the training," said Choser, who has been shaving Navy heads nine years. "You can't get too friendly with these young men. They're just faces and heads."

Back on the Grinder, the Navy's term of endearment for its exercise grounds, the recruits are ready for another morning of PT (physical training).

"Good morning, company," a loudspeaker voice blares.

"Good morning, tape recorder," the recruits shout.

One senior non-commissioned officer surveying a group of new green recruits, sloppy in their formation and slow on their feet, gave his assessment of the new generation he is to train: "They've been eating moon pies and drinking RC Cola, laying around watching the Jeffersons and the Flintstones before they get here. They haven't run. It's hard on them."

Senator WARNER. Well, let us talk about that bottom line in terms of the Army. Have you likewise experienced a general decline here in the past few years of the quality of person coming in?

General VUONO. I think it depends on how you define quality. If you define quality as high school graduates and the various mental categories, it is higher than it has ever been. We have had the highest number of high school graduates entering the Army than we have ever had—since October 1 this year about 94 percent. In mental category IV, which is the lowest acceptable mental category, we are down to about 2 percent. So, if you measure quality that way, we are doing better than we ever have.

Senator WARNER. Is that just paper quality? In other words, you have got a high school diploma but it does not mean much any more?

General VUONO. It gets back to the point that Carl mentioned. You are able to take that young man or young woman, who may not be able to read at the level commensurate with what you consider he or she should be able to read at his education level, and through motivation, through discipline, through training, through leadership, they come along. It has not presented a problem to us insofar as they are able to carry out their responsibilities.

Senator WARNER. I do not question that the services are able to take these young men and women providing the stability of discipline and leadership and motivation which enable them to quickly get on the fast track and away they go. But what astonishes me, I guess, is that all this emphasis that has been for several years now on education is producing, albeit a high school graduate, an individual with diminished skills compared to, say, 3 or 4 years ago.

General VUONO. I think probably longer than 3 or 4 years ago. I think we have been in this situation for more than 3 or 4 years in the country in terms of education, in terms of reading.

Senator WARNER. I think you two gentlemen have established my point, unless there is some further comment from the other chiefs.

Chairman NUNN. If I could interrupt for a moment, I would assume what you are saying is that the high school diploma is an indicator of a quality individual to the extent that they stuck to it. They finished high school, indicating a degree of tenacity and persistence and that kind of thing, but the actual amount of information and ability they have with a high school diploma has declined over the years.

General VUONO. I think that is an accurate portrayal.

Chairman NUNN. What that means is, you have got to spend more money and more time on training.

Admiral TROST. That is correct, also. I think it is important that we not be misinterpreted in saying that the quality of the input to our force is lower. It is not. We think we are getting very fine people, but the Nation's educational system has turned out a lower level of education than we would like to see in the people coming in.

Senator WARNER. This high school certificate, then, is literally papering over deficiencies.

Admiral TROST. It is, in a sense. We are putting a lot of emphasis on the achievement of a high school diploma because it does repre-

sent achievement and determination to complete a goal, and we found that to be a very important success indicator for the future.

General VUONO. Let me go back, Mr. Chairman, to a point that you made. I believe that they learn very, very rapidly once we put them in the environment where we give them the opportunity to learn certain skills.

Senator WARNER. Could I take another minute?

Chairman NUNN. Yes, sir.

Senator WARNER. Gentlemen, as we begin to restructure the Armed Forces in light of the fiscal changes and also the threat changes, should we, at this moment in our history—and it is a unique one—begin to reexamine the roles and missions of the several forces?

Now, I asked General Gray one question about whether or not he felt his sister service, the Army, might be reshaping a few things to compete with him, and I think he very forthrightly said no, but I will give you the opportunity. Should we begin to look at a change in the roles and missions among the four services?

General VUONO. We do that. We just completed a review of that several months ago.

Senator WARNER. That is the Department of the Army, but is anybody——

General VUONO. No, the Joint Chiefs. The Chairman of the Joint Chiefs, along with the Chiefs, have done that, and we do it periodically. We just finished this about 4 months ago and we will continue to do that as we see the situation evolving.

Senator WARNER. One last question, Mr. Chairman, and that relates to the tactical ballistic missiles. General Welch, I think you made a very profound observation, and that it is likely that the Soviet Union, in an effort to bolster their sagging economy, is going to increase the sales of armaments to willing buyers throughout the world.

Speaking for myself I am greatly concerned about the increase in the availability, particularly in the Middle East region, of the tactical ballistic missile. Two questions to you: do you share that concern, and second, what should the United States be doing to provide adequate defenses, and are we doing it in terms of the commitment of resources in the timing required?

General WELCH. Not only do I share your concern, it is very clear to me from my discussions with military leaders around the world that it is shared around the world, so the answer to increasing concerns is, it is very much there.

As to how much of a commitment we have made to any kind of a robust defense against tactical ballistic missiles, it seems almost to be in the "too hard" pile. Clearly, an overarching SDI approach could make a contribution to that, but we are not really contemplating that kind of umbrella.

So, I would have to say no, we are not making very much of a commitment to an antitactical ballistic missile defense system. They are expensive, very hard to do, and we have not made a commitment to that.

Senator WARNER. I appreciate the candor with which you responded to that question. Of course, that is reflective of the way you had answered all questions since the years I have known you.

How about that, Admiral Trost? Because some of your fleet units, and with marines deployed in those units, could well be targeted by these missiles, particularly in the Mediterranean area.

Admiral TROST. We are less concerned about the threat to a mobile fleet unit than we might be to units that are at anchorage at the present time.

Senator WARNER. How about weapons that might contain chemical or biological warheads?

Admiral TROST. They would clearly be of concern, because we can, to a degree, close up our ships and protect and decontaminate them, but not totally. That capability is increasingly found on our newest ships, but not on many of our older platforms. DDG–51, among others, has a state-of-the-art, collective protection system as an integral part of its ship design.

Senator WARNER. What should we be doing?

Admiral TROST. Well, from our standpoint we have increased the emphasis on the ability of ships to be able to operate and sustain operations in an environment—a chemical biological warfare environment.

In terms of defense against a ballistic warhead coming in, we have no system specifically designated for such a purpose, so we would be dependent upon the capability of systems such as AEGIS, with a much slower missile than an interceptor would normally require, to take on and hope to kill such a weapon as it came in. We would still have the problem of destroying a warhead that would likely contaminate the area.

Senator WARNER. Thank you, Mr. Chairman.

Chairman NUNN. Thank you, Senator Warner.

General Welch, you mentioned in your opening comment, and I believe I made a pretty reasonable attempt here to write down what you said, but correct me if I am wrong. "We have already done a great deal of damage to our people and hope that we do not do more." What damage has been done now?

General WELCH. We have, since 1986, in spite of the best efforts of a lot of people in this room and in the Department of Defense, subjected our people to a number of shocks. The first was a change in the retirement system in 1986.

When we made that change in the retirement system, we also explicitly promised our people that that would not impact people on active duty after 1986, and it would not impact anybody retiring after 1986. We have threatened our people with a change to that every year. We rejected that last year. It is back on the table again this year. That is just one example.

We have, over the past years, as we had to draw down the size of our force to maintain readiness and to maintain modernization, had to do some fairly drastic things in force size. Drawing down an all-volunteer force is a totally different kind of problem than releasing conscripts. So, in the course of that we slowed promotions. We told our people when we started the all-volunteer force that we were committed to parity with civilian pay. We are 11 percent below that. We have told our people that we want to give you full compensation when you have to move. We pay $1 out of $3 that it costs an airman to move from one location to the other today. The other $2 comes out of their pocket.

So, I have in mind a whole series of minor shocks. We have limited PCS funds, and in order to meet the bogeys that the various committees have to meet, we have provided about one half the PCS funds required to move the force in response to needs. As a consequence of that, today in Europe we are manned at about 85, 86 percent, so that means that the people who are there are working harder and longer, to make up for the difference.

So, there is no single blow, and I do not want to give the impression that I do not think the Congress has been strongly supportive of people programs. I believe the Congress is.

Chairman NUNN. We have not cut the administration's pay request in any year, so whatever gap there is is because of the budget request made by the Department of Defense and the administration.

General WELCH. I agree fully. There is no one individual—there is not a group of people around who say, let us get people. What happens is we have a series of minor constraints which in and of themselves no single constraint is all that damaging, but the aggregate—the aggregate of cutting PCS funds, the aggregate of not meeting the inflation on pay rates, the aggregate of going after COLA, the COLA minus one business——

Chairman NUNN. That is also the administration each year.

General WELCH. Quite so.

Chairman NUNN. That is in this year's budget and Congress has put it back.

General WELCH. We appreciate that, and my comment in my opening statement did not attach any blame for this, but it is an accurate assessment of the net effect of these sorts of things on our people, and so we have gone through a number of those shocks and we have been able to maintain morale at a very high level in spite of it.

Chairman NUNN. Last fall the President had an opportunity to exempt military personnel from the sequester. Did the Chiefs make a recommendation at that time?

General WELCH. The assumption at that time was that there was middle ground between a full exemption of personnel and the ability to reprogram, and others can speak for themselves. I did not personally recommend a full exemption simply because we could take some actions that were supportable and viable to absorb some of the sequester in the personnel account.

We did it by reducing accessions. We did it because we were coming to a smaller force, and we accelerated that pace. But when we agreed that we could accept some sequester, it was based on the assumption that we would also be allowed to do reprogramming so that we did not have to bear the full brunt of the sequester in the personnel account.

Chairman NUNN. How about the other Chiefs?

General VUONO. That is exactly correct, Mr. Chairman. When this happened we felt in the Army that we could bear the brunt of some sequestering, then reprogram other dollars to provide flexibility.

Now, what happened, of course, was that the sequestered amount was more than the total amount of dollars that we needed in the personnel account. In the case of the Army, we needed something

like $649 million because of certain actions that had taken place within that budget.

We put back in over $400 million, and we are asking in our reprogramming for $232 million to ensure that we do not have to stop promotions of officers and enlisted soldiers, we do not have to stop permanent change of station moves, and we do not have to reduce further our accessions which will cause undermanning in our force and degrade our readiness.

Now, you asked General Welch a question about the point he made in his opening statement, and he described the background to you. I would like to take it forward and talk about the future because I think the near term action on the reprogramming has serious implications for the future.

Right now, as we have all said, we have the best military we have ever had as long as we have been wearing uniforms. We have also said our top priority is our people. There is a degree of uncertainty out there in the force among the people as we travel and visit and talk to our soldiers. There is uncertainty about the future shape of the force, and there is uncertainty personally among some of our soldiers in terms of what is going to happen to them.

If we have to take these actions as a result of not getting the reprogramming, it will be a first step that will cause great difficulties as we continue to take further steps to shape the force in the future. That is why I think all the Chiefs here feel very strongly that we need the assistance of this committee in this near-term reprogramming; action because of the long-term implications it could have on the quality of the force.

Chairman NUNN. Are you not already cutting promotion rates and cutting accessions, and doing all of that yourself internally?

General VUONO. We are doing it, though, Mr. Chairman, in a measured way as we evolve the force over the next 5 years.

I have told the Army that we would not have a promotion freeze, that promotions will continue for officers and noncommissioned officers. I have told the force that we were not going to have a PCS freeze so a soldier in Europe is not forced to have his children stay in Europe after September—the start of the school year. I have told the force that we were not going to underman. The reason that we are taking force structure down in the Army, starting in 1991, is so that we do not underman our units and have undermanned forces that contribute to a lack of readiness.

We have a plan for that. If we are forced now to impose the additional restrictions as a result of this lack of reprogramming, we will completely fracture the near term aspects of this plan.

Chairman NUNN. I tend to agree with what you said, and I hope that somehow we can get this reprogramming through. I favor it myself, but I have to say that I understand the background.

The background is that all last year we heard from OMB that the sequester was okay with them. The administration played the sequester game all along, and the military had an opportunity, and the Defense Department and the President, to exempt personnel under the sequester. So, there was a tactical play of the sequester game all fall, and then the sequester hits.

The President does not exempt personnel, which under the Gramm-Rudman law he has the right to do, and all of a sudden

everybody is saying you have got to reprogram. And, of course, reprogramming is a very unusual procedure in the first place and has to go through the four committees.

It seems to me there was an obligation on the part of the Chiefs last fall to really make your strong views know to the President and ask him to exempt the military personnel, which he had the authority to do under the law. And I am really puzzled why that was not done and why all of a sudden here it is panic time.

I think it raises some real questions as to what was happening last fall when a lot of us were trying to ward off the sequester to begin with. Senator Warner and I spent most of the year trying to convince people that the sequester was going to be devastating, and we were fighting a battle there primarily with the Office of Management and Budget. But what happened last fall? Where were you all last fall when the President was trying to decide whether to sequester?

Senator WARNER. If I could just comment for a minute, indeed, we did join on that, but it seems to me that rightly or wrongly there was a basis on which the Chiefs and others in the professional management of the military could rely on. The procedure of Congress, which has basically been to accept these reprogrammings of this nature—and I think that you could have placed a measure of reliance on the practices of the Congress in accepting the reprogrammings. You and I have had the privilege of working together on this committee for these many years, and rarely have we ever turned down programming of such major significance.

Chairman NUNN. This is the first time we have ever had a reprogramming on the sequester. It is the first time we have had——

Senator WARNER. That is correct.

Chairman NUNN. And the procedure in the Gramm-Rudman law on the sequester said the President can exempt military personnel for the very reason that you are sitting here today saying we are going to have a bad effect. He chose not to do that.

The Defense Department evidently did not come down strong. I do not know what the individual views or the collective views of the Chiefs were, but the Defense Department did not come down strong on exempting personnel. If they did, they failed within the administration, and now all of a sudden everybody in the administration is pointing at Congress saying save us for what we have done. And it is your fault if you do not save us for what we did not do. That is a curious position to be in. Admiral.

Admiral TROST. I do want to comment, Mr. Chairman.

We four sitting here have the leadership responsibility for the Nation's uniformed military services. We four all supported the need to protect our people last fall. I personally argued for full exemption of the military personnel account until we were assured that we would have flexibility within our accounts. That we would certainly pay our bill, but we would have some flexibility which would permit us to take some of the hurt in the personnel accounts if necessary and avoid it by paying from other accounts.

Chairman NUNN. By reprogramming?

Admiral TROST. We further had the guidance in the authorization bill for fiscal year 1990 which specifically directed us to repro-

gram as necessary to ensure fully funded military personnel accounts and avoid hollow forces, and that is what we have done.

Chairman NUNN. Well, it seems odd to me when the executive branch has a chance to make an exemption, that to assure you it does not need to be done by the executive branch, because they can then come up and convince four committees it can be done later.

Obviously the House was not plugged into that, and the House leadership was not. I want to know where we are going to go. We are going to have a meeting tomorrow afternoon on it. I treat it as a serious subject.

My own personal view is we ought to reprogram, and I hope we can because I do not want to see our military personnel disrupted in this manner. But I would have to say the military personnel have now been caught in the squeeze of what was a clear, unambiguous sequester game played on the budget last year by the administration, and now we are being asked to make the correction, and I hope we can make it. But I am afraid we are going to see the same game played again this year. I do not see any other gang coming down the track.

I would urge all of you to get involved at the early stages in this and not to assume that any damage to the personnel account is going to be covered by reprogramming in the next year. It is almost impossible to assume what four different committees are going to do in reprogramming.

Senator WARNER. Mr. Chairman, I join you in supporting this reprogramming. I do not know what flexibility the two of us will have with this committee.

I think the committee as a whole will go on record in support of it, but we are one of four. But if we do not correct it, we are going to do precisely what you said in your opening statement. We are going to have an accident on opening day as we begin to reshape the Armed Forces of the United States. And the words of that accident and the damage from it is going to be incalculable as we try and go on in successive personnel actions to come into compliance with these very ceilings.

So I think who was right and who was wrong, who was prudent and who was not prudent will have to be left to the historians. We are going to have to join hands and bail ourselves out of this one with the understanding that we will do so in a way, as the chairman said, making sure that we ensure ourselves against a similar predicament.

Did the Commandant indicate, Mr. Chairman, that he had a word to say? I would be glad to call on General Gray.

General GRAY. Frequently, I hear people talking about three services, and I always remind them that the Air Force is a service, too. [Laughter.]

We had a unique situation, Mr. Chairman, in the Marine Corps because our budgets and accounts are so lean. Sequestering actually plussed up our accounts, with the exception of manpower. And since we are manpower-intensive, it would have meant that we would have had to cut 17,000 warriors from the force structure, as a result of that process. Clearly, that is not in the Nation's interest, in terms of preparedness and readiness.

I want to assure you that your Chiefs, with the Chairman and Vice Chairman, as well as with the civilian leadership in the Pentagon, not only once, but many times, discussed the sequester issue in great detail. Each of the services has unique problems. We were studying this against the backdrops of what strengths would be, what would happen in Europe and how much manpower would be given up. It was not really clear-cut, and I think a conscious effort was made to give the best advice we could give collectively, and individually.

We were not, rightly or wrongly, prepared to be denied the reprogramming, since there did not appear to be much precedent for that.

I would just underscore what your distinguished colleague said. It does not matter whether it is the administration, the Congress or the service Chiefs. In the eyes of the Armed Forces warriors around the world, everybody inside the Beltway is called "they." This guy "they" has it set up now to "hammer" our men and women and their families. If you need any help in pushing to get this resolved, we would be glad to "hang around here" later on today and do whatever has to be done to eliminate the opposition.

This is wrong from the standpoint of the young men and women, and there are not many marines involved. This is a plea as a person who is a member of the Joint Chiefs of Staff.

Chairman NUNN. General Gray, the CIA has several definitions of "eliminate the opposition." You had better be careful. [Laughter.]

Let me ask the Admiral a couple of questions.

You mentioned at the beginning of your statement—and, again, I jotted these down—they may not be exact quotes, so correct me where I am wrong—you say something to the effect of very few things have happened that would change the requirements for our Navy, no change of requirements. You have said the changes primarily were in fiscal resources and also in the public perception of the threat.

Admiral TROST. That is a fair statement.

Chairman NUNN. And then you went on to say, "Very little change in the international security environment."

Admiral TROST. That is correct as it affects sizing of a navy in peacetime where our primary role is crisis and contingency response.

Chairman NUNN. Admiral Kelso testified, quoting him, "In all of my career the threat is lower now than it ever has been." Now, this is the head of the Atlantic Fleet, CINCLANT, and also, I understand, designee for CNO. If the threat has gone down that much, how is it that nothing in the international environment has changed to affect the Navy?

Admiral TROST. I did not get quite that perception from Admiral Kelso's comments, but I would have to go back to the full testimony and see in what context he made that statement.

Chairman NUNN. He did not endorse cutting the Navy, I am not going to mislead you on that one. But he did say that the threat has substantially diminished. And the question I will get on the floor is what is it that the Navy was doing when the threat was

higher in Europe? What role did the Navy have vis-a-vis Central Europe?

Admiral TROST. The role of ensuring our ability to keep open sea lines of communications and to carry out operations to hold the flanks of NATO. At the same time, while not engaged in combat, we have continued over the last four decades to meet the forward deployment commitments necessary to sustain U.S. interests abroad. That has not changed.

If I may add, Admiral Kelso and I had long discussions both a week ago Sunday and again this past Monday evening, and our discussions then centered not on the threat itself, as represented by political statement, but the capability that remains in the hands of the Soviet Union. Especially, in their strategic forces and in their Navy. A capability which demands prudent reaction on our part, reaction in ensuring that we have the proper force structure to counter it if the political winds change.

I think I can speak for Admiral Kelso in saying that he is referring more to perception of threat than capability or requirement for our naval forces.

Chairman NUNN. Well, I think I got his words exactly right. "In all of my career the threat is lower now than it ever has been."

Let me go on. General Vessey stated before the committee—this is the General Vessey that was Chairman of the Joint Chiefs for 4 or 5 years—indicated that the Navy has not utilized the Reserves as well as the other services, and it has to find innovative ways to utilize the Reserves in the future. How would you respond to that?

Admiral TROST. With interest. I read the statement and I also had read another statement recently that says the Navy is not interested in Reserves. That belies our actions to modernize our Reserve forces to ensure that their equipment is the same as that in the Active forces, the fact that we have very carefully structured our Reserve forces in the aftermath of an initial study directed by the Congress in the 1983–1984 timeframe, and the annual reviews we have conducted in order to ensure that our Reserve forces meet the requirements of a navy whose principal peacetime missions require deployable units.

We have done that. We have ensured, for example, that we can meet all commitments without having to mobilize. We have had occasion to call in our Reserve forces in contingencies, most recently in the Persian Gulf.

We do deploy certain reserve units, most particularly the Reserve Maritime Patrol aircraft, and they do, in fact, meet a portion of our deployment commitments.

We have on a continuing basis used the personnel who are in augmenting or reinforcing units in the Reserves. That constitutes the greater portion, about 70 percent, of our Reserve units. Their function is to augment existing commissioned active units. In a wartime situation to augment staff's intelligence gathering agencies that could not otherwise operate around the clock 7 days a week with their normal peacetime manning.

So, I think we have utilized our Reserve forces quite well, and I think the charge comes because the percentage of our Total force in the Reserves is markedly less than either Army, Air Force or Marine Corps. We are about 80/20 or 82/18, somewhere in that

percentage of Active/Reserve mix, and it is because it is that mix that best permits us to meet our commitments and our requirements.

Chairman NUNN. I understand that you have the requirements that are central to the European threat. We have requirements in the Pacific. We have requirements in Southwest Asia. We have requirements in the Persian Gulf.

But when that threat changes so significantly that the Army is talking about taking out five divisions; the Air Force, several wings; the Marine Corp, pretty stable with different series of missions, never having been as involved in the Central European theater; the warning time having gone up at least in the 30 day neighborhood even before the changes that took place last fall in Central Europe; the Warsaw Pact by almost all testimony we have had, including three former Secretaries of Defense having fundamentally changed, it just seems to me that the Navy has to take another look at its own requirements, not necessarily the number of ships, but in where those ships are and in what state of readiness those ships are.

It seems to me that at least you ought to take a look at whether you can put some of those ships in reserve themselves so that they are able to be pulled out and upgraded and put out within, say 60 or 90 days.

If the Army is not going to be forward-deployed, and they are going to have to have a lot more time to get ready and a lot of their heavy forces in the Reserve, the Air Force is going to have to have a lot of their forces back here, what kinds of sea lanes of the Navy—and we do not have a merchant marine—what kind of a protection are you giving? You cannot—you are not going to be protecting things that are not there. And the Army is going to have some time to get ready. So this warning time, and this change in Eastern Europe, have to have an effect on the Navy, if the Navy's role is brought up-to-date.

Admiral TROST. I tried to set forth my views as much as I could in the earlier posture statement. I want to assure you that I have given a lot of thought to this topic——

Chairman NUNN. I am sure you have.

Admiral TROST [continuing]. On a daily basis for well over a year.

Chairman NUNN. Right.

Admiral TROST. The basis for my statements about the required size of the force is as follows: granted the threat in Europe is, I would say, the lowest we have seen. The political threat and the capability of the Warsaw Pact to mount an attack on the central front is certainly the lowest we have seen it in many years.

I have to structure a navy for the capability to defend against a continuing existing modernized Soviet naval capability, if the political statement of intent to use those forces changes from what it is today. That is one force driver.

Chairman NUNN. The same thing applies to the Army and the Air Force.

Admiral TROST. May I continue, please. If the Army and the Air Force are no longer in Europe in the strength required to face a potential threat, even with a longer warning time, I cannot order ships to be available to counter the threat to the sea lines. They

have to be in existence when needed. They could be in Reserve status or they could be Active. If they are in Reserve status, we would hope we have time to get them activated.

What I cannot control are the commitments to which naval forces are subjected around the world in support of national interests. All I can do there is state that this is the level of forces required to meet those commitments. And I can state that what we have today is on the edge of meeting those commitments—on the edge in terms today of surface combatants.

The problem with putting more of these units today into a naval Reserve status is that they are not immediately deployable. This is not to say that we will not meet commitments. We have always met commitments. But we have done so in the past at the expense of very long deployments and a very high operational tempo which has driven our good people right out of the Navy.

We have been very successful for 5 years now in controlling that level of optempo. We have not had any 250 and 270 day deployments for almost 8 years, and I want to keep it that way, because people will leave the Navy if we do that to them.

Chairman NUNN. Well, I think I heard in that that you are willing to take a look at the Reserves, putting some ships in reserve.

Admiral TROST. We have done it continuously. And we are at the point now where putting further surface combatants into the naval Reserve force preserves them as a Navy element. But they are not deployable to meet the commitments that are levied on——

Chairman NUNN. What warning time are you using there? Are you on the same warning time the Air Force is and the Army?

Admiral TROST. The warning time is irrelevant in the argument I am making right now. I am talking about meeting today's day-to-day deployment commitments, not combat operations.

Chairman NUNN. Who draws up those commitments?

Admiral TROST. They come from a variety of places. They come from the President himself in supporting our commitments for forces in the Mediterranean and the North Atlantic——

Chairman NUNN. Of course, we still say, we are supposed to have two carriers in the Mediterranean. I do not know that we have—we have not met them.

Admiral TROST. That is right. We have not met that one for a long time, because of our force level constraints.

Chairman NUNN. Well, do we not need to take another look at the commitments?

Admiral TROST. We may well. And I am quite certain that is being done right now.

Chairman NUNN. Is it the Navy that draws up its own commitments?

Admiral TROST. We do not draw up any of our own commitments.

Chairman NUNN. All right, where do you get those commitments from?

Admiral TROST. You bounced my sentence, Sir.

Chairman NUNN. Yes, I did.

Admiral TROST. From the JCS who are responding to a national requirement and from the unified commanders who levy a requirement, which is approved by the Chairman of the Joint Chiefs and the Secretary of Defense.

Chairman NUNN. Well, I think everybody I know who I have talked to for 10 years, believe the Mediterranean two carrier commitment has been outmoded before we even had these changes.

I think that if somebody has to have the responsibility of saying what are the requirements for the United States in active deployment in a changed world environment—and it does not seem to me that anybody has done that—I am not saying that they will not come to the same conclusion you have. But if we still have a two carrier commitment in the Mediterranean, if that is the requirement, when it had not been met in years, then, I would say that particularly with the changes going on in the world, that somebody needs to take another look at requirements.

Let me shift to another area, Admiral Trost. You mentioned the security sealift policy statement, and it says, "First the U.S. owned commercial ocean carry industry will be relied upon to provide sealift in peace, crisis and war."

As I read this statement it seems to me that we will rely on U.S. owned ships that are under foreign flag and manned with foreign crews. Do you believe that this is what this statement means? And if so, do you believe that is a sound policy?

Admiral TROST. That may be what the statement says. I have not looked into the definition of "U.S.-owned." It has been a while, several months, since I have read that statement.

I would say that we have to depend on U.S. controlled assets. But those under foreign flag with foreign manning are not ones upon which I would want to totally depend. I think we need a greater U.S. flag merchant marine under direct U.S. Government control.

Chairman NUNN. Well, I agree with you on that.

General Welch, NATO has decided to construct a new peacetime operating base in Crotone, Italy, as a relocation site for the F-16 tactical fighter wing, of course, which has been relocated from Spain.

As you know, Congress in last year's act kept the U.S. share of this at $900 million. This $900 million initiative, we kept our participation at $360 million, I believe. During recent testimony we were informed that over half the forces opposing NATO on the southern flank were non-Soviet Warsaw Pact units.

In light of what, I think, clearly is a disintegration of the Warsaw Pact non-Soviet forces, do we still have a justification for Crotone?

General WELCH. Well, I think so, Senator. And by the way, we can comply with the $360 million. We are not going to ask for any relief from that.

But the fact is that if you look at the geography of the southern flank, and look at the location of Crotone, and considering that that will be the only U.S. permanent presence in the southern flank, then I think it should remain a very high priority.

I would also mention that while it will cost the U.S. a considerable sum, it is largely funded by NATO. And in some respects we should regard that as a real bargain. But the real issue is that it is our only permanent, U.S. presence in the southern region.

Our southern allies regard it as very important. And we regard it as very important. In fact, General Galvin has said that if we got

down to just three wings left in Europe, he would want one in the southern flank.

Chairman NUNN. Have you all looked at this Crotone deployment, and also the two carrier requirement in the Mediterranean in connection with each other? For instance, if we put Crotone in, do we still need to have a requirement for two carriers in the Mediterranean?

General WELCH. Well, certainly we have looked at the total requirement for support for southern region contingencies. And that is the basis for the two carrier requirement. Even though as you point out, we have not been able to meet it. And the force at Crotone and the two carriers do not begin to constitute the total requirement to support any contingency in the southern flank. We would still have to rely on reinforcements.

Chairman NUNN. Even considering the fact that half the forces that were arrayed were part of the East European forces which I think everybody would concede are not any longer the threat?

General WELCH. Well, certainly it would not take very much of a contingency to require considerably more than the single wing at Crotone and the aircraft that would be available on the carriers that are likely to be there.

So, yes, I would think we would still need reinforcement for most major contingencies on the southern flank. And while the Warsaw Pact threat has been considerably reduced, I do not think any of us would be comfortable about the overall relationships in North Africa and the Middle East and the eastern end of the Mediterranean.

Chairman NUNN. How much manpower is associated with the Crotone base when it is completed? Do you remember offhand roughly?

General WELCH. No. Let me get you that for the record. But I can tell you, it is about 4,500 total.

[The information follows:]

MANPOWER ASSOCIATED WITH CROTONE BASE

When Crotone Air Base, Italy, is completed, the planned manpower authorizations will be [deleted] U.S. personnel and [deleted] foreign national employees.

Chairman NUNN. Has that been plugged into this 30,000 limit on the flanks?

General WELCH. Yes, it is. It must be counted in the 30,000 limit.

Chairman NUNN. I am told, General Welch, that your term "station forces" is the correct term for both CFE and for the other region, the flank region I would call it. But that the only exemption to that definition is what would be called transit forces—we will have to get a definition for that. I think you all ought to work on that, because if the definition is what I think it is, it means hitting the runway and leaving very shortly after refueling, which means that if you had a contingency where you had to build up in order to deter a conflict, you would not be able to do it. I think this definition needs to be looked at very carefully.

General WELCH. I think that we would need to be in a different kind of session that we are in right now. There are provisions and notification requirements. And I think that you should get a com-

plete picture of that, because it is available. It is not that we do not know what it says. It is that we are in open session. So negotiations are still ongoing.

General VUONO. I think the point that we made earlier is one that we all agree on. Those are stationed forces. The 30,000 we were talking about.

Chairman NUNN. That is right. The definition of station forces is pretty important, because I do not agree at all that you could have a contingency and build up another 30,000 or 40,000 forces in there even for a period of weeks under my understanding of it. I do not think that could happen.

You could perhaps say, okay, we are flying into Frankfurt, or we are flying into Spain, and we are going to be there a few hours. Now, of course, you can always breach an agreement, or you can always terminate an agreement, but I do not really think we have thought this one through.

General VUONO. As I said earlier, I think if one——

Chairman NUNN. Unless one assumes that we are going to keep 195,000 forces in Germany from now on. And I think that anyone reading the German political situation would not come to that conclusion.

General VUONO. As I said earlier, I think there are some points that we would want to discuss in another forum.

Chairman NUNN. Let me just close my questioning by saying to you General Vuono and General Gray, do you all now have now a clear understanding of the distinction between the roles and missions for the Army and the Marine Corp? Has all of that been settled?

General VUONO. I do not think we have ever had an issue, and we do not now between General Gray and me.

Chairman NUNN. So what the Army is doing in moving light forces is not infringing on the roles and missions of the Marine Corp, General Gray?

General VUONO. The Army is not necessarily doing anything different than we have done in the past regarding the mix of forces that we have designed and that are in being in the Army.

Chairman NUNN. General Gray, let me get your comment on that.

General GRAY. We do not need two Marine Corps. We have one. I think that we all understand that. I think we must look at what has to be done in the future clearly, if we are going to be able to execute and reshape the plan in the Army in order to give them a greater contingency type capability.

I think that a look at this is warranted. The size of that has to be determined over time. In terms of rapid response and the need to be expeditious, I view those capabilities as complimenting what we have in existence today.

So, I do not see a problem at this juncture.

Chairman NUNN. Have you all had a recent thorough discussion in the tank about the roles and missions, particularly, along this line?

General GRAY. We have just finished another net assessment. We have looked at these things, since I have been in Washington, during the last couple of years.

Chairman NUNN. Since the changes in the Warsaw Pact?

General VUONO. We just finished a major review of roles and missions that was submitted 3 or 4 months ago. We did that last year.

General GRAY. The capabilities assessment and the net assessment went through that.

Chairman NUNN. Senator Glenn.

Senator GLENN. Thank you, Mr. Chairman.

I am sorry I could not be here for the whole hearing this morning, but I was chairing a mark-up. And we just got finished with that a few minutes ago. I voted your proxy at that other one, Mr. Chairman, I might add.

The Office of the Secretary of Defense has just initiated a study on total force policy. That is force mix and roles and missions as a sign between the regular establishment and the Reserves. We wrote that in our Manpower Subcommittee that I chaired last year went through the full committee as now required was in the authorization bill. What priority are you giving to this reassessment? Admiral Trost.

Admiral TROST. Well, a rather high priority. We are not starting from scratch, Senator Glenn, since we have been complying with the direction of the authorizing committee since 1984 and looking at what we needed, whether we needed to restructure. We have made a lot of changes in our Reserve force in this last 8 years or so.

On this particular study, the priority is that the Chief of Naval Reserve and another flag officer and a number of other staff personnel are directly involved in providing the information and providing our input into that study.

Senator GLENN. We are very concerned about this study and that it get the highest priority. I will not bother getting each person's comment here with the time we have available.

I hope you are giving that the very highest, priority. I wish we had started that study a couple of years sooner. No one knew we were going to get tossed into this scale down situation as rapidly as we are. And it is much more difficult to retrench and scale down your forces than it is to build them up where everybody is sharing some of the pie, and it is just arguing for more dollars.

When you scale down, it is much more difficult. Now we know since our total force policy was put into effect in 1973, some aspects of the things that were assigned to the Reserves and the Guard have worked very, very well, have been excellent, and others have been atrocious.

If we had ever really had to go to an all-out war with the way we were structured in the Guard and Reserves in some respects it would have been a disaster. And all you have to do is sit in on some of the war games to know what areas those are. The area of, General Vuono, combat support, service support, medical, 80 percent combat medical. And I will not go into all the figures that you and I have discussed previously on this.

But while we are scaling down and while we are having to retrench, it seems to me is when we really have to restructure things. Some of these things that have not worked well in the Reserves and the Guard are things we have to correct. And where

they have not, where we would make some other arrangements, or whether we would bring them into the regular establishment.

Other functions, General Welch, you are well aware of course that some of the Reserve squadrons quite often outcompete the regulars in some of these combat maneuvers and get better ratings. They have a lot of leftover people from Vietnam that had combat experience. And so perhaps more assignments could be made to the Guard and Reserve in those areas.

I just hope each of you are taking this very seriously, because we need your guidance on that. We need it very badly. And we cannot go ahead year after year saying, well, sometime we are going to fix this certain area. Now is the time when we have to scale down, and we have to make decisions on weapon systems and personnel assignments and end strengths and all those things. We really need that study.

Is it your opinion that this total force policy study will be incorporated in the development of the fiscal 1992 to 1997 POM? General Welch.

General WELCH. Well, I would think so. Certainly, the Air Force recognizes that as we draw down overseas forces that we have the opportunity to enrich the mix of Active and Reserve forces. We are headed in that direction, and we look forward to any further inputs from this study to help us guide exactly how to do that, but we have no resistance to doing that. We do that to the maximum extent that makes economic and operational sense.

Senator GLENN. Well, we need your guidance and need it badly. And particularly, General Vuono, in your area. You are aware of some of the shortcomings that we have discussed for year after year here, and we need your guidance in particular.

General VUONO. I am pleased to join my colleagues and tell you that we have given it a high priority. We have the right people working on it. It has the right title. It is a Total force, not just people. It encompasses the opportunity with reductions in the forces as a result of CFE, of making equipment available that will benefit the Total force.

Senator GLENN. I was concerned last fall when there were announcements out of the Pentagon by Secretary Cheney, December 16, L.A. Times, he is quoted as saying, "It was hogwash," that we were beginning to give away some of our strengths out and getting something for it in negotiations.

Yet when the new budget came over here to us, a budget that we are working on now, either proposed or discussed the reduction of 5 Army divisions, 5 Air Force tactical wings, 10 Navy combatant ships, significant Guard and Reserve manpower reductions, significant military civilian end strength, reductions and on and on and on.

It has been my feeling—and I do not want to get in a big discussion on this—I think these are things that we should be putting on the table at Geneva in Vienna and getting something for. I think it is crazy to be giving these things away and unilaterally reducing our capabilities here. A threat comes not only from the military hardware and the people, but it comes from the political will and ability to use it.

Now that is what has been destroyed for the Soviets. The hardware and the people are still there. I am trying to raise some great threat this morning. But I will feel much more secure that we really have peace for the future when we finally get around to getting them to reduce their actual hardware. And I think we have been negligent in that particular area.

But along that area, General Vuono, we have the M–1 tank. We are phasing that out. The Soviets have reduced their tank production by half, but they continue to outproduce us, because in the present plan we will have no tank production whatsoever in this country.

Do you agree with that?

General VUONO. It was a very tough decision to recommend that we stop production of the present tank. We did that taking advantage of what we see as the reduced threat and the arms control negotiations, to ensure that we are providing the technological opportunities to produce the next generation of tank, so that we can have overmatch over a potential adversary in the future.

The choice that we made within our modernization strategy was to accept some near term risk and to put our available resources against those technological capabilities we need for the future. That was the decision that we made.

Senator GLENN. Just one other area that I want to touch on here.

General Vuono, if I showed up in your office and said I want to give you a helicopter that will go twice as far twice as fast and carry one-third more payload to do your job in the Army, what would you think?

General VUONO. I would say, Senator, there is no free lunch. With the dollars that you were going to use for that helicopter, I would ask you to put it against my top priority, which is a light attack reconnaissance helicopter.

Senator GLENN. Which also has its own cost.

General VUONO. Which is my top priority because it has the capability I need for my force.

Senator GLENN. Obviously what I am talking about and what you already fathomed was we have not given up completely yet over here on the Osprey, on the V–22. It started out as an Army project, and Army had some other priorities at that time when it was developed over the last almost 10 years now with support.

We already know that negotiations between the Japanese and the people in Fort Worth have already been held, some of them, on whether we are going to sell this to the Japanese or not or license it so that we can buy it back like VCRs and TVs 5 years from now when it becomes the standard.

I just disagree strongly with the proposal to cancel out everything about this, and in the new budget that we are on now we cannot even complete the test program as I understand it. We will not even have money to find out what all this research and development has done. It will just terminate, period. If we think of every military function that is performed by helicopters, civilian helicopters as well, here we have a chance to have a new capability, twice as far, twice as fast and one-third more payload, and to give that up I think is a mistake.

I think in last year's budget as presented to us this was solely a Marine Corps ship-to-shore missing that was going to get people ashore 3 or 4 minutes faster or whatever the figure was and that it was not worth the $22 billion. I agreed with that 100 percent if that was the only use of that machine. I just think that in this new budget here when we are terminating that thing completely, not even getting the benefit out of the research that has been done so far by completing the testing on it, we are making a drastic mistake.

General Welch, when you were in the Air Force, would you have liked to have a helicopter that would go twice as far twice as fast and carry a third more payload?

General WELCH. I will give you the same answer. Of course I would, but there is no free lunch. We are giving up some very precious things in the current budget levels.

Senator GLENN. We are going to have to make some very tough decisions around here on some of these things, too, on what programs we think may have a priority. There are some big ticket programs that are in your particular area, General Welch, that I am sure are going to come under close scrutiny here as we decide what we want to spend the money for.

Admiral Trost, I know that in the Navy you have all sorts of helicopter uses. I am sure that twice as far twice as fast with more payload is very attractive. Once again, before you say it, I know it is the budget considerations, but go ahead.

Admiral TROST. I am not sure I can add much to the conversation, Senator Glenn, other than to say that we supported the requirements stated by our sister services and were planning to cooperate with our sister services and the Department of the Navy in fielding that weapons system at one time.

Senator GLENN. There is a congressionally directed V-22 cost and effectiveness analysis that was to have been submitted with the fiscal year 1991 budget. That has not yet been completed or submitted. Which one of you had the lead on that or was responsible for submitting that?

General Gray, were you involved with that?

General GRAY. The Department of Defense is running that operation. The initial plan was to complete the study in April, Senator. I now understand it will be completed in May. It has slipped about 30 days.

I do know that they have gone through an exhaustive effort, examining the alternatives. They are trying to come up with the very best study that they can.

I would also like to comment on the Osprey, if I may. The program, as we all know, was initially a joint program. Over time, when it was no longer a joint program, it became unaffordable for Marines only. I think that the Marines could not go along with the MV-22 issue. As you well know, it is extraordinarily difficult to go your own way. That is the position in which we found ourselves.

We really are talking here, in my judgment, about a national capability, that has both military and commercial applications. My recommendation would be, if asked, that we look at all of the helicopter requirements of the Armed Forces. We certainly need new helicopters, or will at the end of the decade, in the Air Force. We

would certainly need them to replace the Cheyennes and the Black Hawks in the Army; and, we need them to replace the vertical replenishment requirements of the Navy.

We need, in my judgment, to have a newer and better antisubmarine warfare capability.

We know about the medium lift requirements of the Marines, and we need to be able to infiltrate/exfiltrate our special forces capabilities, to include Marine units.

We need them elsewhere in the Federal programs, such as helicopter support for Drug Enforcement Agency operations.

It then seems to me that we should decide whether we want to have helicopters or whether we want to have new technology. If we want to have helicopters, for whatever reason, then we should all get together and get the best helicopters that the Armed Forces can have, given the other constraints.

If we decide to go with new technology into the next century and the out years, the tilt rotor is not the only solution, but it certainly is one that we all know quite a bit about. We could then get together and do it that way.

The affordability issues should not lie in a single service, nor in a Marine-only requirement. The commercial side has already been alluded to by you, Senator. Clearly, it poses a possible answer to the regional airport crises to commuter aircraft. You have already talked about the interest from other nations as well.

That would be my suggestion.

Senator GLENN. I look at it as you have indicated, as a national resource, also, and not just the way it was presented to us last year as a Marine ship-to-shore movement solely. That is the way it was presented, and that is the reason it was shot down last year by the Secretary of Defense.

We are in the middle of the test program on that aircraft now. The way the funding was submitted to us, if it is terminated, I will not ask you to go into it now but could you provide for the record what will not be done in that program, what we will not have completed if we follow the strict budget line that has been submitted to us by the Pentagon?

General GRAY. Yes, sir, we will provide that information.

[The information follows:]

The original test plan called for a total of 4,110 flight test hours, divided between Developmental Testing (DT) and Operational Testing (OT). Fiscal year 1989 and fiscal year 1990 funding will provide for approximately 200 hours of testing, all in the DT area. The specific tests will address performance envelope expansion and will accomplish some subsystem development, though not in detail.

The primary purpose of the DT phase is to certify that the aircraft and the technology are airworthy and that the subsystems perform according to specifications.

If no additional funding is provided, the aircraft will fall short of having met the milestones required to qualify it for military use. Since the test program was also designed to form the basis for Federal Aviation Administration certification requirements, that portion of the program would also be left undone.

Equally important, termination of the test program at the end of fiscal year 1990 would mean that no OT will have been accomplished. This phase of testing is planned to certify the mission suitability of the aircraft and to ensure that it meets the operational requirements set forth by the military services.

As the Full Scale Development program is currently structured, there are no tasks being performed that would lead toward a Milestone III (production) decision. Producibility data will not be provided, and the necessary interface between design engineers and production engineers will not have been accomplished. Since much of

that effort was scheduled for Computer Aided Design/Computer Aided Manufacturing (CAD/CAM) that interface is critical to the overall process of production.

Termination of the program at this juncture will mean that the test program will have only scratched the surface of the program at a time when tangible results are emerging.

Senator GLENN. To bring that thing along for 10 years as the Congress has and look forward to it and then not even be willing to complete the research on it so we know what we did over 10 years—we have the airplanes flying now and the test program going along very, very well.

I agree. I think the other point that you made is an excellent point; that is, that the cost differential is what we should be looking at. It is not as though we will not have a vertical lift capability. We are, and the old helicopters are wearing out. We will have to replace them. That will be at no small cost, either. So we are talking about a cost of some new technology, a new capability added here as opposed to just replacing the existing capability we have. So that is a very good point.

Mr. Chairman, my time is up.

Chairman NUNN. You are the last questioner, Senator Glenn, so if you need more time please go ahead.

Senator GLENN. No. Fine, thank you.

Chairman NUNN. I want to thank all of you for being here today. We are going to communicate with you a great deal before this year is over. It is going to be a tough one for all of us, and we greatly value your opinions, as we always have.

Thank you very much.

[Questions for the record with answers supplied follow:]

QUESTIONS SUBMITTED BY SENATOR ALAN J. DIXON

LHX PROGRAM

Senator DIXON. In the February 26, 1990, issue of the Aerospace Daily, it was reported that the House Armed Services Committee study recommended that the "LHX program should be shifted to pursue the next generation of technology as a demonstrator program while continuing to build the AHIP and Apache helicopters at a low rate enough to sustain some helicopter production base and complete modernization of the force structure." This seems to be in line with former (Vice) Chief of Staff of the Army (and former Chairman, Joint Chief of Staff) Vessey's statement of February 2, before this committee when he called for skipping one generation in development. Could you please comment on these thoughts?

General VUONO. The Light Helicopter (LH) program is essential to retire the aging and obsolete light fleet of AH-1s, OH-58s, and OH-6s and achieve a combat effective down-sized force with leap ahead lethality, versatility, and deployability. The shifting of the LH to a demonstrator program will not solve the major deficiencies of low reliability, minimal night or adverse weather capability, and poor flight performance which the Aviation Mission Area Analysis confirmed in 1982. The purchase of additional Army Helicopter Improvement Program (AHIP) and Apache helicopters is more expensive and will not provide the warfighting improvements which our combat forces need as we enter the next century. AHIP and Apache represent the technologies of the 1970s and earlier, and they lack the vital survivability (low radar and IR signatures), high agility/maneuverability/speed, high reliability, and supportability that LH will provide to the combat forces. This approach would be both inefficient and costly and not provide the needed technology to sufficiently modernize the revised force structure. LH technology represents a major improvement over all existing helicopters. LH technology is being successfully demonstrated now to include integrated Very High Speed Integrated Circuit (VHSIC) processing, second generation Forward Looking Infrared Radar (FLIR), and helmet mounted displays. These advancements will be efficiently and effectively integrated in the highly survivably and lethal LH. The LH is the cornerstone for Army aviation mod-

ernization and is essential to meet the 21st century threat spectrum with a smaller and more capable force structure.

Senator DIXON. What will be the production gap that exists from the time the Apache production line shuts down until the LHX comes into the force? It appears there will be at least a 5- to 6-year gap in attack helicopter production. Does that seem prudent?

General VUONO. Apache received an appropriation in fiscal year 1990 to buyout the remaining 132 of the total 807. Current plans call for contract award in two phases, April 1990 and November 1990. Apache production will extend through December 1993. The first Light Helicopter production delivery is planned for March 1996. The "production gap" is from December 1993 to March 1996, or 2 years and 3 months. However, it is likely that Apache sales to other governments will reduce the gap or result in no gap at all.

The total of 807 Apaches meets the Army's force structure requirements. It is not prudent to purchase above the 807 since these would be excess to Army requirements.

Senator DIXON. Looking at a comparison of the LHX and the Apache, it appears that LHX gives us 50 percent of the firepower for 75 percent of the cost. Why would the Army want to commit such a large portion of its procurement budget to a system that achieves only marginal capability over what you already have?

General VUONO. The Light Helicopter (LH) will replace aging AH-1, OH-58 and OH-6 aircraft and complement, not replace, the AH-64. The LH will perform armed reconnaissance in light and heavy divisions, and attack missions in light divisions with an inherent built in air-to-air capability. The AH-64 was designed for the antiarmor role in heavy divisions and not for the armed reconnaissance mission. Specifically, the AH-64 relies on its stand-off target engagement capability to do its antiarmor attack mission. It is too big, lacks the necessary sensors, and is too costly to operate in the close-in environment that the LH will occupy. When operating together in heavy divisions, the LH and AH-64 provide an unmatched capability to find and destroy enemy ground targets.

The LH, incorporating 1990s technology, provides significant improvements in speed; agility and maneuverability; target acquisition; night pilotage; integrated nuclear, biological and chemical protection; survivability (radar, IR and visual signature reduction); electromagnetic interference/pulse (EMI/EMP) protection; reliability and supportability. All of these attributes will provide the Army with the aircraft it needs for the future to do armed reconnaissance for all divisions and the attack mission, replacing AH-1s and eventually Armed OH-58Ds, in light divisions.

Senator DIXON. Earlier estimates suggest the Army plans to commit in excess of $37 billion for LHX production. In order to keep the cost at $37 billion, you must enter into low rate production 2 years before completing full scale development. Also, you must produce LHX at a peak rate of 216 per year, considerably more than Apache or Black Hawk production. With all these risks, how do you plan to keep the total bill at $37 billion and not monopolize major portions of the Army's declining procurement budget?

General VUONO. The production cost for the baseline Light Helicopter (LH) program, using fiscal year 1990 inflation guidance for escalated dollars is approximately $39.0 billion. The Government will control these costs by securing production cost commitments from each contractor team during the Full Scale Development (FSD) source selection and requiring the winning contractor team to manage their cost requirements throughout the life cycle for LH. The decision for 2 years of concurrency between low rate initial production and final completion of FSD is prudent and provides a smooth and logical transition from development to production. LH will be adequately tested in Early Unit Test and Experimentation (EUT&E) prior to initiating Low Rate Initial Production (LRIP). Without prudent concurrency, significant cost increase and Initial Operational Capability (IOC) slippage would result. It must be emphasized that only 12 of 2,096 aircraft will be produced prior to the end of FSD. These early production aircraft will participate in the Independent Operational Test and Evaluation (IOT&E), which is the final FSD milestone.

The planned peak production rate of 216 per year is readily achievable, particularly given multiple production sources. LH will be the principal and dominant helicopter production program. When the Army was simultaneously procuring Apache, Black Hawk, CH-47D, and AHIP in the 1980s, annual combined production quantities considerably exceeded 300 aircraft per year during peak production, with a much larger relative funding requirement in constant dollars than required for LH.

LIGHT ARMORED VEHICLE ASSAULT GUN PROGRAM

Senator DIXON. As I said in my opening remarks, I am concerned that given the fact that the defense budget is being reduced the services should be looking for commonality in their systems. Just recently, the Marine Corps entered a competition, after an initial market survey, to develop a light armored vehicle assault gun program. The Marine Corps assured the committee earlier that whatever system was selected must satisfy Army's requirements.

I have learned that the Army recently initiated a new market survey with plans to enter a separate development program next year for a new light armored assault vehicle replacement for the M551 Sheridan system. What makes no sense is that after a major market survey by the Marines, the Army with very similar requirements initiates another market survey for their own system. Earlier this year, I questioned this budget because of issues that just didn't make any sense. And General, this just does not make sense!

Can you explain why any and all funding for both the Army and Marine Corps should not be held up in these tight budget times until the Army and Marine Corps can get together for a single total assault gun system to meet the requirements of both services?

General VUONO. The Army's current budget proposal begins funding the Armored Gun System (AGS) program in fiscal year 1992. The Army began an intensive review of the requirement for an AGS in late 1989 and the Army's market survey includes a review of the Marine Corps assault gun program and its application to our needs. The Army has reviewed the Marine Corps stated requirement for a new light armored assault vehicle and has determined that the roles and missions as well as the minimum acceptable deployability criteria were not acceptable to meet the Army's requirement for an AGS. The most significant differences between the two system requirements lie in the method of deployment and in the primary means of employment. The Marine Corps system would be deployed by ship and heavy lift helicopter, while the Army's system would be deployed by tactical Air Force assets. The Marine Corps has stated that their vehicle must be swimmable and meet weight restrictions of 29,000 lbs. to meet heavy helicopter lift deployability limits. The Marine Corps system will be used to conduct reconnaissance, security, and economy-of-force operations, as well as other contingency missions. The role of the Army's AGS is as a forced entry weapon system for use in military operations on urban terrain (MOUT). The Army's system will be used primarily in contingency force operations and must be designed to be Low Velocity Air Droppable (LVAD). The Army's system can weigh up to 35,750 lbs. This increased weight will allow the acquisition of a vehicle with increased protection levels, at least as good or better than those of the vehicle to be replaced. The primary means of delivery would be by C–130, C–141B, and C–17 aircraft. The Army's analysis of the Marine Corps candidate vehicles indicates that they would not meet minimum acceptable Army Required Operational Capability (ROC) standards and thus would be unacceptable for use in Army contingency force operations. There may be some commonality between the USMC systems and the Army's stated needs. The Army's market survey, with results to be briefed in early April to the AGS General Officer Steering Committee, will include whether the Marine Corps' candidate systems can be configured to meet the needs of the Army. Doctrinal, concept based requirements, as well as operational employment, have driven both services to different requirements, and it would be premature to determine that one gun system could meet the requirements of both services.

STRATEGIC HOMEPORTING

Senator DIXON. Are you considering postponing or cancelling any of the other new homeports such as Everett, Washington?

Notwithstanding that some new homeports such as Staten Island are substantially completed, should the Navy not be reconsidering the operation of these new installations in light of the reduced size of the fleet (from the planned size of 600 ships) and the increased operation and maintenance costs of this dispersed basing plan? Would you provide an analysis of the comparative operating costs of a dispersed fleet vs. the status quo, i.e. base structure prior to the strategic homeporting plan?

Admiral TROST. While we have not recommended stopping the completion of any strategic homeport in this year's budget, we are comprehensively evaluating the shore infrastructure as affected by recent events.

We are reconsidering the operation of these new installations in light of the reduced size of the fleet (from the planned size of 600 ships) and the additional oper-

ation and maintenance costs of the new bases. On one hand, our strategic homeports have modern facilities, specifically designed for some of our newer class ships. On the other hand, recent years' funding shortfalls have affected proper operation and maintenance of our existing bases. Using existing homeports to the exclusion of the new homeports may solve some of our problems, but it also perpetuates existing shortcomings. There are many complex factors which must be considered as we try to achieve a more modern, effective, and efficient shore establishment.

Initially, base operating costs were estimated to increase by $35–50 million per year with strategic homeporting. It was as difficult then as it is now to accurately assess cost differentials. For example, estimates cannot capture all the costs of loading all the ships into existing ports. The Navy has not, therefore, pursued a detailed comparative analysis. We knew that base operating costs would increase and that those costs would represent between 1 and 2 percent of the total Base Operations Support dollars for the Navy. Our projections indicate that the total base operating costs (not differential) will be approximately 2.3 percent of the total Navy base operating costs and are consistent with the costs at existing homeports.

Nonetheless, changes have taken place which require us to rethink our shore infrastructure plans, including our strategic homeporting programs. Ensuring that the shore infrastructure is adequate, within available resources, to support the expected force levels and preserving the principles of strategic homeporting is our goal. Therefore, a thorough review of the Navy's shore establishment, including the strategic homeports, is underway.

C–17

Senator DIXON. The C–17 program has had problems which have resulted in the slippage of the first flying date. Are these problems under control and what is the scheduled first flying date?

General WELCH. Douglas Aircraft Company (DAC) experienced difficulties with the development of two of the C–17 electronic components, the flight control system, and the mission computer. This resulted in a slip of the first flight from August 1990 to June 1991. DAC changed subcontractors on the flight control system and is now ahead of the new schedule. DAC has taken a stronger role in managing the mission computer subcontractor and the program shows substantial progress. Resolution of these problems will enable complete assembly of the first test aircraft by December 1990.

PEACE INITIATIVES

Senator DIXON. We have heard testimony on the peace initiative round the world and the recommended draw down of units in Europe. Given these factors, have the requirements for rapid airlift been reduced?

General WELCH. Strategic airlift provides the United States with the capability to project influence and forces quickly and decisively throughout the world, a capability of increasing importance as we reduce our forward deployment posture and global instability and uncertainty remain. Their ability to carry troops and/or cargo, air refuel, and airland or airdrop their loads reduces dependence on forward-basing, while retaining the ability to meet almost any military or civil requirement. Clearly strategic airlift is a national asset whether employed in support of military operations such as JUST CAUSE in Panama, or as part of humanitarian efforts providing relief following natural disasters such as Hurricane Hugo.

The effective and efficient movement of forces requires achieving a balance between airlift, sealift, and prepositioning. Given the magnitude of force withdrawals under consideration (in several areas, not just Europe) and the scope of the uncertainty we face in unpredictable areas around the world, airlift and sealift must be viewed as complementary. While increased warning time for a European conflict may allow us to use more sealift to return forces to Europe, it does not obviate the need for airlift. Increased warning time does not necessarily produce a corresponding increase in reaction time. As uncertainty and instability around the world increase, the ability to respond quickly becomes even more important.

F–15E

Senator DIXON. General Welch, the F–15E is today the most capable air superiority fighter in the U.S. Air Force, as well as the most capable night, all-weather deep strike aircraft. The administration's budget calls for the termination of F–15E production after 1991.

Do you think this is a wise move given the fact that the replacement for the F-15E, the Advanced Tactical Fighter (ATF), is not scheduled for full production until the late 1990s? Will this leave us with a force that meets theater requirements for long-range interdiction in the post-INF environment? If the Advanced Tactical Fighter is not available on time, what will be the shortfall of planes we need to fill the role of F-15E fighters? It seems that the F-15E program should be maintained until we have a new fighter that is available to replace the F-15E. Do you concur?

General WELCH. The ATF and the F-15E are being procured to fill two different mission areas. The ATF will replace the F-15A-D air superiority aircraft, not the F-15E. The first F-15A/B unit became operational in July 1975, while the last F-15C/D aircraft were procured in fiscal year 1986. Many of these F-15s are already over 15 years old and will need to be replaced in the late 1990s. The ATF fills this requirement.

The F-15E is being purchased as a dual role fighter, capable of providing long range interdiction while retaining the excellent air-to-air capability of the F-15. The F-15E was developed to complement the F-111 in the long range interdiction mission, but by retaining the F-15 air-to-air capability, provides the joint force commander with the flexibility to increase his air-to-air capability if required. The Air Force originally planned to procure 392 F-15Es, but because of affordability, reduced the buy to 200 aircraft.

We are developing the Advanced Tactical Aircraft (ATA), a variant of the Navy's A-12, to replace the F-111. As the ATA replaces the F-111, the F-15E will complement it in the long range interdiction role. We currently anticipate replacing the F-15E with the ATA.

Due to the recent events in the Soviet Union and Eastern Europe, we are reassessing the threat and the target base to determine if we have an interdiction shortfall.

COST OF ATF PROGRAM

Senator DIXON. The ATF program is said to cost some $54.6 billion for 750 airplanes. Do you really think, given the defense budget reductions, that Congress is going to buy 750 of these planes?

General WELCH. The Air Force goal is to replace the F-15 one-for-one with the ATF. The current tactical fighter force has seven wings of F-15s (six active and one air national guard). One tactical fighter wing requires 100 aircraft to properly support wing requirements. Therefore, 700 ATFs are required to replace the current F-15 force. The additional 50 aircraft are for attrition. The size of the tactical force structure is currently under review. The requirement for ATFs will be adjusted to meet the results of this review.

TECHNICAL PROGRESS OF ATF

Senator DIXON. I read in Defense News of February 26, 1990, that "the mission and design of the Air Force's planned Advanced Tactical Fighter Plane would be radically changed under a scheme proposed by Department of Defense planners, sources say." Given the changes in the ATF delay in the program, don't you think we should fund additional F-15s in this budget?

Last year this committee asked for a report on the technical progress of the ATF and a certification that there are no technical or performance problems that would delay introductions of the ATF, when can the committee expect to have this report?

General WELCH. The ATF is being developed as a replacement for our F-15A-D air superiority aircraft. The only F-15 currently in production is the F-15E. Although the F-15E retains the air-to-air capability of the F-15A-D, its primary role is long-range interdiction, not air superiority. The ATF, on the other hand, is being developed to perform the counter air mission similar to the F-15A-D. Because the F-15E and ATF perform separate missions, ATF development should not be linked to F-15E procurement.

The report on the ATA technical progress will be provided by OSD. OSD advises us that the report has been completed and should be available by the end of March.

ASSAULT GUN SYSTEM

Senator DIXON. Can you explain why any and all funding for both the Marine Corps and the Army should not be held up in these tight budget times until the Army and Marine Corps can get together for a single total assault gun system to meet the requirements of both services?

General GRAY. There are a number of differences in the needs for the Army and the Marine Corps with respect to an Assault Gun. For example, system weight is very critical to the Marine Corps to allow the vehicle to be lifted by helicopter, whereas the Army permits weight growth outside the "helo-lift" limit (29,000 pounds) envelope for added armor protection. Other differences in configuration/requirements, which are less dramatic, also exist in the areas of mobility and air drop capability. The merging of such requirements differences would be difficult to achieve without substantial trade-offs on each service's part.

QUESTIONS SUBMITTED BY SENATOR JOHN GLENN

VERTICAL LAUNCH ASROC

Senator GLENN. Admiral Trost, VLA was to be an interim weapon pending the successful development of Sea Lance for use by both surface and submarine vessels. Since Sea Lance has now been cancelled, what are your plans to meet the projected ASW threat for our surface fleet assets?

Admiral TROST. We are fortunate that we have continued to develop a Vertical Launch ASROC (VLA) capability so that the cancellation of the Sea Lance program, due to affordability reasons, is mitigated by having the VLA program to fall back on. We won't have a multi-convergence zone targeting capability like we hoped to have with Sea Lance, but VLA will provide surface ships equipped with VLS launchers an intermediate range, all weather, quick reaction capability. We will continue to rely on ASW aircraft, including our very capable Lamps MK III to provide long range ASW attack capability.

Senator GLENN. The budget contains $30 million to incorporate a MK-50 warhead in VLA. What is your estimate of the cost and the time required before the upgraded rockets will be available to our surface fleet?

Admiral TROST. The Navy estimates that the cost will be $175 million with initial deliveries in 1998.

QUESTIONS SUBMITTED BY SENATOR JOHN W. WARNER

JUST CAUSE AND CONTINGENCY OPERATIONS

Senator WARNER. Operation Just Cause has been cited as an example of a successful contingency operation, but also stated that future contingencies may not be of this same type. Please explain your impressions and share your opinion on the lessons learned from Just Cause.

General VUONO. Operation Just Cause was flawlessly planned and conducted. The operation demonstrated many of the traditional capabilities of the U.S. Army in responding to contingencies in peacetime. It also provided us with the opportunity to validate, under fire, many of the new, modernized systems in use in the military today. Suffice it to say, the equipment performed as advertised. The National Command Authorities' objectives were achieved rapidly and efficiently. Just Cause was a success. The Army proved its contingency capability through multiple, simultaneous airborne, airmobile, and ground operations using both special operations and conventional forces and conducted both during the day and night with equal professionalism. The Army modernization program, rigorous training, tough standards, and quality soldiers saved lives in Panama—a factor which can be directly attributed to the adequate funding the Army has received in the Personnel, Operations and Maintenance, and Research, Development and Acquisition accounts in the past.

Many observations have already been made about Operation Just Cause—both official and unofficial. The Army's Training and Doctrine Command has been directed to conduct an official review of the operation and provide a formal report to the Department for approval by the end of May 1990. Their report will consist of a historical chronology, lessons learned, and recommendations. The Army will use this report to determine if any changes are required in force structure, materiel, doctrine, training, or leader development.

Regarding different types of contingencies, Army doctrine describes several different types of contingencies in which the Army could be involved besides the type encountered in Panama. Peacetime contingency operations include but are not limited to: shows of force, non-combatant evacuation operations, rescue and recovery operations, strikes and raids, peacemaking, unconventional warfare, disaster relief, security assistance surges, and support to civil authorities. Recent U.S. military actions, such as our support to U.S. and foreign counternarcotics plans, Hurricane Hugo and

the San Francisco earthquake disaster relief operations, require many of the capabilities, less combat, that the Army has always possessed.

The principal difference between Just Cause and other contingencies which may in the future arise is that the United States has both forward-deployed forces and infrastructure in Panama. This simplified the force entry process, aided in intelligence and surprise, and provided a present, knowledgeable source of information on the area of operations. This may not be the case in future combat contingencies.

TACTICAL BALLISTIC MISSILE THREAT

Senator WARNER. With the increased proliferation of tactical ballistic missiles along with chemical, biological, and some nuclear capabilities in the Third World, I would like to hear your assessment of the threat you perceive for your particular service. What steps should be taken to cope with this threat?

General VUONO. Intelligence indicates that approximately 20 developing nations have or are acquiring tactical ballistic missile systems with ranges from less than 100 to over 2,000 kilometers. Large numbers have been employed with varying effect in the war between Iran-Iraq and in Afghanistan. Certain nations are known to have missiles with chemical warheads. Other nations have both chemical weapons and tactical ballistic missiles, and could conceivably combine the two. Still other nations have the capability for developing nuclear and biological warheads.

Combining the expected proliferation of developing nations seeking, developing, and possessing tactical ballistic missiles, with the growth in missile accuracy, range, and lethality, tactical ballistic missiles could represent a major threat to U.S. operations anywhere in the world.

The Army has a requirement for a Tactical Missile Defense (TMD) capability for protection of U.S. forces against tactical ballistic missiles with conventional, chemical, and biological warheads (CBW) being fielded by the Soviet Union and developing nations. A JCS Statement of Operational Requirements specifies a combination of (a) passive defenses, (b) active defense capabilities, (c) attack capabilities to kill launch systems on the ground, and (d) Command, Control, Communication and Intelligence (C^3I). The Army's TMD capability must be readily deployable to support contingency forces as well as to reenforce NATO.

The Army has a number of systems deployed or under development to neutralize the tactical ballistic missile threat.

(a) Patriot is the only weapon system fielded in the free world today with a tactical missile defense (TMD) capability. Patriot Anti-Tactical Missile Capability Level One (PAC-1) was fielded in 1988. PAC-1 included (1) software modifications that enable the Patriot radar to detect tactical ballistic missiles and (2) a self-defense capability for Patriot fire units against attacking tactical ballistic missiles. Patriot Anti-Tactical Missile Capability Level Two (PAC-2) is planned for fielding in 1991, and includes missile modifications to increase lethality and expand the defended area.

(b) A Patriot-Hawk interoperability program will provide the Hawk limited capabilities to engage missiles in flight.

(c) The Army is developing further TMD improvements to Patriot Beyond PAC-1 and PAC-2 capabilities.

(d) The Army is also considering concepts under development by the Strategic Defense Initiative Office (SDIO). The Army's Strategic Defense Command (SDC) is coordinating a technology demonstration of the ERINT (Extended Range Interceptor) and has initiated a Theater High Altitude Area Defense (THAAD) program. Only after a trade-off analysis between Army and SDIO concepts will a preferred concept be selected for future fielding.

(e) SDC is also managing the Israeli Arrow program for SDIO.

While the Army's efforts were initially focused on the Soviet/Warsaw Pact threat, the Army is increasingly placing emphasis on the growing developing nation tactical ballistic missile problem. The Army has requested a contingency force defense system (weapon, sensor and C^3) be accorded the highest priority for SDIO-sponsored research for Tactical Missile Defense systems.

The Army is preparing to release a requirements document which establishes the requirement to provide a missile defense for critical assets, including lodgement areas, in contingency theaters. The Army's Air Defense Modernization Plan includes programs to provide strategically deployable, tactically mobile air defense systems with missile defense capabilities.

Research efforts are underway to develop measures to destroy chemical and biological warheads on enemy tactical missiles. SDIO research into kill mechanisms against strategic nuclear warheads will be evaluated for theater defenses.

Passive defense measures such as early warning, camouflage, concealment, deception and protective devices are being evaluated for capabilities to reduce the vulnerability of U.S. forces and equipment.

A number of Tri-service deep attack programs have capabilities to attack missile launch systems on the ground and are being evaluated in that mode.

C-17

Senator WARNER. What is the rationale from the Army's point of view for the C-17?

General VUONO. The Army has a strategic mission to protect U.S. vital interests around the world and to support its coalition based strategy. A rapid Army power projection capability is central to a credible deterrence and the execution of our national military strategy. Recent events in Panama and current trends in the international environment make it clear that rapid deployment will become even more important for future contingency operations. The unique capabilities of the C-17 are critical to the Army's global strategic mission.

Senator WARNER. What capabilities does the C-17 have that justify the cost?

General VUONO. The C-17 has several unique capabilities that are not available in our current airlift fleet. The C-17 can fly intercontinental ranges and direct deliver soldiers and equipment into small, austere airfields with runways 3,000 feet by 90 feet. This capability provides access to more than 6,000 additional airfields in the free world that are not accessible by the C-5 or C-141 aircraft. The C-17 can also transport outsized Army equipment such as the Apache Helicopter, Multiple Launched Rocket System and the Infantry Fighting Vehicle in near ready-to-fight configuration. The rapid delivery of mobile, high precision, high volume firepower at critical times and places can compensate for an unfavorable force ratio or provide additional combat power for light infantry and airborne forces. As the proliferation of sophisticated weaponry increases around the world, the ability to transport outsized equipment becomes more critical. Additional capabilities of the C-17 include combat offloading; dedicated satellite communications hook-up for the ground force commander; and low velocity airdrop or low altitude parachute extraction of loads up to 60,000 pounds (current capability is only 42,000 pounds.)

The unique capabilities of the C-17 are critical warfighting needs—not merely aircraft enhancements. The C-17 could mean the difference between victory and defeat during future conflicts.

Senator WARNER. Should we seek any less costly alternative?

General VUONO. The most likely future threats are regional and Third World conflicts that could occur with little or no warning. Given this scenario, the Army needs both airlift and fast sealift. Operational circumstances will dictate which mode is best. Airlift is the most flexible, responsive component of the strategic mobility triad. It provides the capability for the rapid build-up and emergency sustainment of combat forces. If we are unable to generate a favorable force ratio during the initial stages of conflict, we may never achieve victory. Additionally, a robust airlift capability is required regardless of the amount of POMCUS or prepositioned equipment. Soldiers and equipment that cannot be effectively stored (such as radars, fire direction control, intelligence/electronic warfare, and aviation assets) must be airlifted to equipment link-up sites.

Senator WARNER. If Congress gave you the money we will spend on the C-17 to the Army and told you to buy the airlift you need, and keep whatever amount of money you could save for Army programs, would you still buy the C-17?

General VUONO. I have already emphasized the importance of airlift and the unique C-17 capabilities to the Army's global strategic mission. Eighty percent of the current airlift fleet is over 20 years old. The C-17 is the only existing airlift modernization program and a critical part of the strategic mobility solution. The Army wants the C-17, but I remind you that the USAF is the manager and provider of airlift for the Army.

REQUIREMENT FOR HEAVY FORCES

Senator WARNER. I heard several reports recently that, with the dramatic shift in world events, the Army will transition away from heavy forces to lighter forces. I noted some interesting facts in your statement on page 8, where you point out that "Libya has more battle tanks than France or the United Kingdom, and several countries—Syria, India, North Korea, and Iraq—have more main battle tanks than France and the United Kingdom combined." Will we still have, in the future, a significant requirement for heavy forces?

General VUONO. The Soviet threat appears to be diminishing, but even with a Conventional Forces Europe treaty, there will still be an operational heavy force requirement in Europe through the 1990s. As you have pointed out, Third World threats are not diminishing but are becoming technologically more sophisticated and lethal. Heavy forces, therefore, will play a critical role in such regions as the Middle East or Southwest Asia should the NCA and the Nation have a requirement to commit forces there. Army missions are enduring despite changes in the fiscal and strategic environment. As a result of reduction in resources, the Army is required to downsize but will maintain a balanced posture of both heavy and light divisions that are versatile, deployable, and lethal.

Senator WARNER. How do we get them to the battlefields in a timely way?

General VUONO. The Army of the 1990s will be a smaller and less forward deployed force. To enhance deterrence and ensure that the strategic missions assigned to the Army can be executed consistent with emerging national military strategy, the Nation requires modern airlift capable of transporting heavy and light forces anywhere in the world. The Nation also requires fast sealift to rapidly reinforce early committed Army and Marine forces with heavy combat, combat support and combat service support forces and to resupply these forces. A rapid power projection capability is an essential element of credible deterrence. Deploying forces in a crisis, to establish a strong forward presence or to reinforce forward deployed forces of any service, can strengthen deterrence and prevent hostilities. The C–17 facilitates contingency operations which are the most likely future scenario. Using the C–17, the Army can deliver a tailored mix of forces and equipment to respond to any threat. With existing fast sealift ships, the Army can deploy a heavy division and corps level CS/CSS to Southwest Asia in about 3 weeks. As part of a Joint Task Force, the Army can provide unique capabilities such as ground air defense, heavy armor or robust engineer capabilities. Further, by putting the right mix of forces on the ground early, the need for even larger forces later may be precluded. It is essential that the Army have access to strategic mobility assets capable of rapidly deploying its heavier equipment.

REPLACEMENT FOR THE SHERIDAN

Senator WARNER. The Panama Operation Just Cause highlighted again the need for the Army to replace the 1960's vintage Sheridan Airborne Armored Reconnaissance Vehicle. This committee requested in our bill last year, prior to the operation in Panama, that the Army identify a replacement for the Sheridan. The Marine Corps currently has a program underway to procure a Light Armored Vehicle with a low-recoil 105mm gun. I would like to hear from you a progress report on these programs. Is it feasible/advantageous for you to use the same system to meet both requirements?

General VUONO. The Army began an intensive review of the requirement for an AGS in late 1989. The Army's market survey efforts include a review of the Marine Corps program to field an assault gun system. The Army has reviewed the Marine Corps stated requirement for a new light armored assault vehicle and has determined that the roles and missions as well as the minimum acceptable deployability criteria were not acceptable to meet the Army's requirement for an armored gun system. The key differences between the two system requirements lie in the method of deployment, with the Marine Corps system deployed by ship and heavy lift helicopter and the Army's system deployed by tactical Air Force air assets. The Marine Corps has stated that their vehicle must be swimmable and meet weight restrictions of 29,000 lbs. to meet heavy helicopter lift deployability limits. The Marine Corps system will be used to conduct reconnaissance, security, and economy-of-force operations, as well as other contingency missions. The role of the Army's AGS is as a force entry weapon system for use in military operations on urban terrain (MOUT). The Army's system will be used primarily in contingency force operations and must be designed to be Low Velocity Air Droppable (LVAD). The Army's AGS can weigh up to a limit of 35,750 lbs. This will allow the Army to acquire a vehicle with increased protection levels. The primary means of delivery would be by C–130, C–141B, and C–17 aircraft. The Army's analysis of the Marine Corps candidate vehicles indicates that they would not meet minimum acceptable Army Required Operational Capability (ROC) and would be unacceptable for use in Army contingency force operations. Doctrinal, concept based requirements, as well as operational employment, have driven both services to different requirements, and it would be premature to determine that one assault gun system could meet the requirements of both services.

INFANTRY WEAPONS PROCUREMENT

Senator WARNER. Last year, this committee provided $30 million ($18 million for the Army, $12 million for the USMC) for the procurement of more lethal infantry weapons and improved "soldier items". I would like to hear what you are planning to do with this money to enhance the infantry in your service.

General VUONO. After this program was authorized, the Army created the "Soldier Enhancement Program" (SEP). The intent of the program is to enhance the effectiveness of the individual combat soldier through the development and fielding of better clothing and individual equipment, personal small arms, explosives, communications and vision devices. Thanks to the committees' initiative, we have the opportunity to evaluate concepts and soldier-oriented equipment at an accelerated pace. With the successful fielding of new or improved SEP projects, we have the opportunity to greatly improve the survivability, mobility and lethality of our soldiers.

We intend to use a common sense series of tests by soldiers and NCO's out in the field to quickly evaluate these items. The information gathered from these tests will be used as the basis for our follow on procurement strategy. We established two primary areas within the SEP; the Small Arms and Mine Neutralization Area and the Clothing and Equipment Area.

On 28 February the Acting Assistant Secretary of the Army for Research, Development and Acquisition provided the report required by the law on the Soldier/Marine Enhancements. This report contained a comprehensive list with a brief description and explanation of all of the SEP items.

The items within the Small Arms and one Neutralization Area are: assault pack for the M249 Squad Automatic Weapon (SAW), optics for light weapons, advanced crew served weapon, adaptation of night sight to Light Anti-Tank Weapon, new small arms, advanced rifle grenade munitions, semiautomatic grenade launcher, small projected line charge for anti-personnel mine clearing, covert mine neutralization systems, and scatterable mine clearing system.

The items within the Clothing and Equipment Area are: new intermediate cold/wet glove, improved laser eye protection, lighter weight Personal Armor System Ground Troops (PASGT) helmet, new aural protection and communications headset, improved battledress uniform, Extended Cold Weather Clothing System (ECWCS), self-heating ration devices, improved rations, individual water purification compounds, new rapid erecting five soldier crew tent, penlight/flashlight, individual camouflage cover and new laser alarm device for the individual soldier.

STRATEGIC HOMEPORTING

Senator WARNER. The Navy will be opening new homeports in Staten Island, Texas and the gulf coast, and in Washington State.

How much will it cost to operate each of these new homeports? Which priority is more important to you, opening and operating these new ports, or maintaining the current size of the fleet?

Admiral TROST. Bases are essential to our warfighting capability. With strategic homeporting we are trying to achieve the best possible posture in peacetime to permit us to perform our mission in war. We must have a balance between force structure and base structure; it is not so much a question of which is more important. Achieving and maintaining that balance under the constraints imposed by national priorities and the budget process will be a significant challenge.

Also, we need to keep in mind that strategic homeporting evolved from principles which are still applicable, even though we are not moving toward a 600-ship Navy. We want to disperse our forces to improve our defensive posture, improve training opportunities by homeporting in more diverse geographic locations, reduce travel time to potential areas of operation, collocate ships to form balanced battlegroups, maintain an adequate industrial base by placing ships near existing private sector industrial capability, and develop additional logistic support complexes to sustain our Maritime Strategy. The decision, therefore, to build strategic homeports was not based solely on the projected growth to 600 ships.

Nevertheless, we are comprehensively evaluating the shore infrastructure given a smaller fleet. Making premature decisions on our strategic homeports with modern facilities, specifically designed for some of our newer class ships, would not be prudent. Recent years' funding shortfalls have affected proper operation and maintenance of the Navy's existing bases. There are many complex factors to be considered in achieving a more modern, effective, and efficient shore establishment.

The following *projected* total annual costs for the new homeports represent approximately 2.3 percent of the total Base Operations Support dollars for the Navy:

	Millions
Staten Island	$10
Pensacola	12
Mobile	10
Pascagoula	5
Ingleside	25
Everett	22
Total	$84

Staten Island and Everett costs include operating costs for the functions being relocated as a result of the Base Realignment and Closure Commission's recommendations from Brooklyn and Sand Point, respectively. The Pensacola figure is the increased cost to homeport the operational vice training carrier.

In summary, changes have taken place which require us to rethink our shore infrastructure plans, including our strategic homeports. Preserving the delicate balance between shore infrastructure and force structure is our goal. A thorough review of the Navy's shore establishment, including the strategic homeports, is underway.

FUTURE DEFENSE BUDGETS

Senator WARNER. In view of the flat growth anticipated in future defense budgets, would you comment on your impression of Air Force support for the ATA and ATF concept, and the perceived value of commonality within tactical aviation in the out years?

General WELCH. The ATF is the Air Force's most important tactical development program. We fully intend to commit the resources necessary to enter full scale development in fiscal year 1991. The Air Force is also fully committed to the ATA as a replacement for the F-111 fleet at the turn of the century. We are continuing to work with the Navy to achieve commonality in both of these aircraft, and we both expect significant out-year savings as a result.

ALTERNATIVES TO THE C-17

Senator WARNER. Much has been said about possible alternatives to the transport. Why can't we get by with spending less money and keep the current airlift fleet operating?

General WELCH. Without addressing the significant operational benefits of the C-17, cancelling the C-17 is not prudent for several economic reasons. First, the USAF Airlift Master Plan calls for modernizing our airlift fleet with 210 C-17s. This allowed the Air Force to retire older C-141s and operate the remainder of the C-141 fleet at a lower daily utilization rate, thus extending the number of years of useful service. Keeping the current fleet operating without the C-17 would require a C-141 Service Life Extension Program (SLEP). While current estimates indicate a SLEP could extend average aircraft service life to 2011, this is a high risk option requiring 16 to 24 months of additional study. In addition, the Air Force estimates that the SLEP would cost from $7.0 to $13.5 billion, take 6 to 8 years to complete, and reduce organic airlift capability by over a million-ton-miles per day during the repairs. Second, the C-141 at its current 4.0 crew ratio requires almost twice the manpower and flying hour costs per million-ton-mile flown compared to the C-17. Finally, extending the C-141 service life only delays the eventual need for aircraft replacement. Using the C-17 program experience as a guide, deliveries of a replacement aircraft would need to start by 2007, driving program startup in 1998. Considering the economic impacts of C-141 service life, operational costs, and eventual replacement, the right operational and economic course is to field the C-17.

Senator WARNER. What is the current projected life of the C-141 fleet?

General WELCH. The C-141 was originally designed for 30,000 hours of flying time. During the conversion of C-141As to C-141Bs (stretching and adding air refueling), measures were taken to extend the airframe service life to 45,000 hours. As of September 1989, the fleet average is 31,700 hours. Since the early 1980s, threat analysis and operational needs dictated that the C-141 be deployed in the high speed, low level environment. This flight regime and heavy-weight aerial refueling have accelerated structural damage. As a result, aircraft are accruing equivalent hours at a rate up to 1.68 times as fast as the flying time; thus, at the current flying rate, we would expect the fleet to reach end of service life by the year 2000.

Senator WARNER. Won't innovations in sealift give you all the increase in capability you need?

General WELCH. No. Responsiveness is the key. Sealift innovations certainly help the mobility requirements of our combat forces. Sealift has the capacity for carrying enormous amounts of materiel. However, the transit time required for sealift tips our hand days before forces can be brought to bear, giving an enemy time for a number of preemptive measures and robbing us of the initiative. The need for fast, formidable force packages increases as more combat units are returned to the United States from stations overseas. Airlift provides the needed flexibility for rapid deployment of our combat assets anywhere in the world. During the 1973 Arab-Israeli War, the Air Force delivered missiles and ammunition and even tanks almost immediately. Although sealift delivered 74 percent of the Israeli resupply, the first ship did not arrive until 5 days after the war was over. Airlift and sealift work together, they are not exclusive of one another. We must have both.

Senator WARNER. How about timing? It seems to me that sealift is necessary but that airlift modernization is key if we are to be responsive on short notice, such as a Panama-type operation.

General WELCH. Timing is critical. When an operation such as Operation JUST CAUSE needs to be carried out quickly, airlift is the key. Airlift's speed, flexibility, and timeliness gave us the responsiveness to project sufficient forces to overwhelm resistance and limit loss of life. Although fast sealift can sometimes play a critical role in force projection, the lessons learned from the 1973 Arab-Israeli War clearly show that airlift provided the timely response necessary for success. Our primary airlift aircraft (C-141s, C-130s) used in Operation JUST CAUSE are now 25+ years old and approaching the end of their service lives. The current airlift fleet must be modernized. The C-17 modernizes as well as expands the Nation's airlift capabilities. It offers much lower support costs than either the C-141 or C-5, while combining the advantages of strategic airlift for force deployment and the ability of tactical airlift to operate in and out of short fields to employ troops or resupply. The next time the Air Force is called on to respond, the challenge may be half way around the world, but the requirement for timeliness will be just as great. The C-17 advantage is its ability to deliver a potent force anywhere in the world and concentrate that force at the critical point at the critical time.

Senator WARNER. Is it true that during the time of execution of the airlift for Panama that our entire C-141 fleet was committed?

General WELCH. Yes. During the period 18-21 December, 100 percent of the C-141 fleet was committed, but not entirely for JUST CAUSE. The commitment level for the C-141 varied between 57 and 67 percent in direct support of JUST CAUSE. The remainder of the C-141 fleet was committed to other essential airlift requirements around the world. Unfortunately, this high level of support for JUST CAUSE required cancellation of previously scheduled operational missions.

Senator WARNER. Could we have executed a similar operation over greater distances, for example, in the Middle East or Southwest Asia?

General WELCH. Yes. A similar operation over greater distances could be executed, but exactly how much could be delivered in a particular time period would be situation specific. The location of the conflict and the type of terrain would be important factors that could affect whether we would concentrate on airdrop or air-land employment. The actual distances involved would dictate air refueling requirements. Longer distances would increase the time and require a higher percentage of our airlift force to deliver the same force package.

CONDITION OF THE C-141 FLEET

Senator WARNER. How would you characterize the condition of the C-141 fleet?

General WELCH. In the mid-1970s the Air Force examined the C-141 for a service life extension beyond the original 30,000-hour design limit. A durability and damage tolerance assessment (DADTA), conducted by the engineering community, identified numerous structural areas requiring corrective action to reach 45,000 hours. These corrective actions are still in progress. Since the early 1980s, threat analysis and operational needs dictated that the C-141 be deployed in the high speed, low level environment. Unfortunately, both low-level flight and heavy-weight aerial refueling have significantly accelerated structural damage. This accelerated damage is well beyond the DADTA forecast. The net effect is an accelerated fleet service life reduction. Accelerated fatigue cracking resulted in a center wing box replacement program, extensive repair of a critical wing splice area, and repair of a pressure bulkhead. Early wing cracking has forced MAC to restrict a significant portion of the fleet from low level and heavy weight air refueling flights. The C-141, the primary U.S. airlift aircraft, has exceeded its original 30,000-hour design life and is well into its service life extension program to 45,000 hours.

Senator WARNER. Is another SLEP program a viable alternative?

General WELCH. For the past 26 years the C-141 has been the Air Force's principal strategic airlifter. The stretch program served to significantly enhance its lift capability, making it an even more valuable asset. However, the C-141 should not be considered a viable long term future airlift option based upon longevity, cost, and capability shortfalls. Originally designed for a 30,000 hour service life, repairs required to extend the service life to 45,000 hours are currently in progress. Cracking and corrosion which exceeded original engineering estimates raise serious questions as to the viability of further service life extensions. More detailed engineering analysis is required to accurately define the prudence of a SLEP beyond 45,000 hours for the entire aircraft structure. Additionally, the cost of a SLEP that extends its service life into the 21st century, must include not only the cost of needed repairs, but also the cost of enhancements required to operate effectively in a very demanding future environment. Even with these costly enhancements, the C-141 will not be able to accomplish critical mission requirements to include delivering outsized cargo directly to austere locations. Although a SLEP may be technically feasible, it is not the optimum solution to satisfy airlift demands of the next century.

Senator WARNER. Do we need to replace these aircraft?

General WELCH. Yes. As the C-141 reaches the end of its service life, it must be replaced. Today's strategic airlift capacity is far short of the requirement, even with a reduced Soviet and Warsaw Pact threat. Furthermore, the C-141 can't meet future demand for mobility, flexibility, and cargo handling, and must be replaced by a more capable modern aircraft.

PROCURING FIVE B-2

Senator WARNER. The administration's plan is to procure five B-2 aircraft in fiscal year 1991, before the "stealth" tests are completed. Isn't there a risk that the aircraft will not perform as well as you predict?

General WELCH. Outside the anomalies experienced by previous stealth programs like the F-117, we do not expect any surprises from the B-2 once the low observable testing begins. Lessons learned from previous programs, the hours of computer analysis, and the enormous amount of component laboratory testing completed to date indicate the predicted stealth characteristics should be exhibited by the B-2. The anomalies that previous programs experienced were caused by small, sporadic manufacturing defects which produce "hot spots" in the vehicle stealthiness but which are easily corrected once discovered. Again, based on our experience in producing stealth vehicles like the F-117 and ACM, we are highly confident the B-2 will perform as predicted.

Senator WARNER. What is your answer to the proposal that we put off procurement of the B-2 until the test program is complete? What would that cost?

General WELCH. Delaying B-2 production would increase the overall program cost and lose the benefit of risk reduction already completed to balance concurrency and total program cost. The B-2 has already undergone extensive testing, with 10 years of risk closure behind the program. This early risk reduction gives high confidence in program integrity and has been validated by early flight test results. There has been nothing in testing, and nothing is expected, that would adversely affect the decision to build and field the B-2.

Additionally, the FSD aircraft (beginning with the very first vehicle) are manufactured using production processes not normally associated with the FSD phase, significantly reducing production transition. The production facilities and tooling are in place, ready to sustain an efficient production of B-2s, and we should now capitalize on the investment by building the aircraft at an efficient rate.

A gapped production program would generate curtailment and startup costs of approximately $1 billion. In addition, all of the production efficiencies learned to date would be lost, making each aircraft produced after restart more expensive than if produced as currently planned. Also, many fixed price contracts for subcontractor produced items would be broken, leading to higher unit prices for each aircraft produced. The initial estimate for delaying the production phase by 3 years is an increase in total program cost of approximately $17.0 billion above the currently planned program.

Senator WARNER. The Air Force has based its confidence on the stealth performance of the B-2 on model tests and computer calculations. Can you tell us how confident you are, based on the experience with the F-117 and ACM, that this approach is wise? How well did the actual performance of these systems compare to the model results?

General WELCH. The low observable development process followed by the B–2 program represents a refinement of the experiences of previous stealth developments, and includes better computer models, utilizing more capable laboratories and ranges, and improvements in manufacturing technology. As such, we expect the early low observable performance of the B–2 to match, if not better, the results of previous programs. We have high confidence that the actual radar cross section will be within 15 percent of the predicted value, and a deviation from specification of this amount is unlikely to affect B–2 survivability.

Senator WARNER. Would you please give us your views on the role of the Navy and the Marine Corps for the future?

General GRAY. I will limit my response to the role of the Marine Corps, and of the Navy to the extent in which it is relevant to the Marine Corps. Just as the Marine Corps has a role to play in operations that may not include the Navy, the Navy has roles to play that do not directly involve the Marine Corps. While the question is short and direct, a complete answer will require some length, and must deal with the question from more than one perspective.

Functionally, the Marine Corps and the Navy will continue to play the roles that have proven so vital to the Nation's security and well-being. For the Navy, those roles include strategic deterrence, sea control, power projection, presence, and sealift. For the Marine Corps, our operational utility will continue to place us in power projection, presence, and expeditionary service roles, and in the diverse roles that follow from our charter to "perform such other duties as the President may direct." It is not surprising that there will be little change to these roles in spite of the significant changes occurring in the world. The United States will remain a maritime nation, dependent upon control of the seas for economic health and national security. We will not abandon our role as a global superpower, nor our desire to resolve threats to our national interests as distant from our shores as possible. And while the central object of our security concerns appears to be dismembered and no longer bent on global hegemony, there are ideologies and interests and forces with which we will have to deal. Naval forces, in their traditional, historically validated roles, will continue to be the most effective force to employ, in the majority of likely scenarios. Our interest in such scenarios will probably not be the defeat of an enemy, per se, but the maintenance or reestablishment of regional peace and stability.

It is safe to say that the Marine Corps, and its Navy partners, will play an expanded role in the future. There are several reasons for this. First, the consensus that the military threats to NATO and South Korea have either lessened or lost their relative significance have made reduction of our forces in those countries inevitable. At the same time, the changing political landscape, both at home and abroad, is increasingly unwilling to support, or accept, basing of our forces overseas. The net impact of these "new realities" will be a decrease in our overseas presence, and a probable loss of overseas bases. The same political climate will tend to encourage expressions of sovereignty, and an increased unwillingness to incur risk or disfavor by supporting U.S. operations against a third party. In sum, we will be less able to rely on overseas bases or grants of rights, and necessarily more reliant on those forces who can operate independently, taking advantage of international waters and our unequaled mastery of the sea.

Second, the emerging world appears to be clearly moving from a bi-polar world to a multi-polar one, with recognized regional powers increasing in influence, and long-suppressed national and ethnic and ideological forces creating new frictions and hot spots. It will remain in our national interest to be able to participate in the shaping of events and control of those crises that affect our security. As in the past, the forces that allow a controlled, calibrated response ranging from presence to forcible entry are naval forces; specifically, carrier battle groups and amphibious task forces. Historically, our country has consciously assigned to the Department of the Navy responsibility for overseas intervention, crisis control, and contingency response short of major hostilities. As the Armed Forces adjust to significant changes in force structure and force levels, it will fall even more heavily to existing naval forces to perform those roles, so critical to the prevention of major hostilities.

Finally, it must be pointed out that the role we play will be in proportion to the resources and support allocated to us. This has both a quantitative and qualitative aspect to it. The naval forces required to provide "full coverage" of the regions of potential conflict that are vital to our interests are not insignificant. Not only are the oceans vast and the littorals extensive, but the rotational base necessary to keep forces on station on a sustained basis must be factored in. Selected coverage makes a smaller force possible, but also makes U.S. response dependent on how well we anticipate the crisis. Forces not in proximity to the crisis must then deal with time and distance factors that cannot be finessed. Also, a reduced overseas presence

means a reduced overseas influence. One can argue that in a world where a long-standing balance of power is suddenly undergoing dramatic and unpredictable change, our interests would be poorly served if the perception grew that we were unable, or unwilling, to participate in world affairs involving our interests. The great challenge is not to predict what our role will be, but to arrive at a Solomon-like division or the resources to support that role, both within DOD, and within the Department of the Navy.

LIGHT ARMORED VEHICLE (LAV) 105MM

Senator WARNER. The Panama Operation JUST CAUSE highlighted again the need for the Army to replace the 1960s vintage Sheridan Airborne Armored Reconnaissance Vehicle. This committee requested in our bill last year, prior to the operation in Panama, that the Army identify a replacement for the Sheridan. The Marine Corps currently has a program underway to procure a Light Armored Vehicle with a low-recoil 105mm gun.

I would like to hear from you a progress report on these programs.

Is it feasible/advantageous for you to use the same system to meet both requirements?

General GRAY. The LAV 105 program is currently in the source selection phase leading to the award of a single contract for Full Scale Development. The winning contractor will build three prototypes which will incorporate an EX35, 105mm cannon; auto loader; and five control system into a turret which will be integrated into the common LAV chassis. We plan a June 1990 contract award with the first prototypes to be delivered in March 1992. Developmental and Operational Testing will follow (1992–1993), and we expect to award a production contract in 1994 for 154 systems.

There are a number of differences in the requirements for the Army and the Marine Corps with respect to an Assault Gun. For example, system weight is very critical to the Marine Corps to allow the vehicle to be lifted by helicopter, whereas the Army permits weight growth outside the "helo-lift" limit (29,000 pounds) envelope for added armor protection. Other differences in configuration/requirements, which are less dramatic, also exist in the areas of mobility and air drop capability. The merging of such requirements differences could be difficult to achieve without substantial trade-offs on each service's part. The Army has been kept advised of our developments in this program.

Senator WARNER. Last year, this committee provided $30 million ($18 million for the Army, $12 million for the USMC) for the procurement of more lethal infantry weapons and improved "soldier items." I would like to hear what you are planning to do with this to enhance the infantry in your service.

General GRAY. Congress provided $11.678 million to the Marine Corps in fiscal year 1990 for enhancement of the light infantryman's combat potential.

The following is a list of programs we plan to pursue:

Program Name/Fiscal Year 1990 ($M)

1. Rifleman's Assault Weapon/$2.0

Remarks: A Non Developmental Item (NDI) ordnance item launched from a rifle's muzzle that permits the individual rifleman to breach concrete walls and other urban targets from ranges out to 250 meters and from within protective enclosures.

2. Over Snow Mobility Suite/$3.0

Remarks: This program will operationally test a suite of state of-the-art individual snow mobility items including skis, ski march boots, poles, bindings, assault snowshoes, and a family of equipment and casualty sleds. The intent of this program is to replace the 1950's technology currently in service with lighter, better snow mobility equipment designed with performance, comfort, and individual injury prevention in mind.

3. Extreme Cold Weather Shelter/$1.0

Remarks: This program will operationally test an NDI four man, 15 pound tent designed to provide protective shelter in extreme cold weather conditions. This is both a load reduction effort and quality of life/war fighting enhancement initiative.

4. Combat Load Enhancement/$1.5

Remarks: This program will survey the available state-of-the-art individual equipment used by the Armies of the world with the intent of procuring the best of what is available for operational testing. Items included in this initiative include, but are

not limited to, flashlights, individual rain protective gear, entrenching tools, lightweight stretchers, and individual shelters. Much of the equipment of this type that is currently in the active inventory is of World War II design. Lighter, more efficient equipment exists and would enhance the quality of life and combat effectiveness of our Marines.

5. Antipersonnel Obstacle Breaching System (APOBS)/$0.95

Remarks: A man portable, fire and forget, mine and wire neutralization/clearing system that creates a continuous 45 meter long x .6 meter wide cleared foot path. Employed by two men in 30 seconds, the system provides the Marine with a 25 meter standoff from the mine field. This system will replace the bangalore torpedo which has been in service since World War II at a weight savings of 5:1. This $950K will be added to the current Marine Corps funding of $1.5 million to accelerate the FSD portion of the program.

6. Reconnaissance Patrolling Insertion Extraction Equipment/$1.178

Remarks: This initiative includes a number of associated items that support reconnaissance/raid operations. An example of the type equipment included in this initiative is the small unit water purification unit. That system allows a four man team to live off the land's available water using a one pound unit that provides 10,000 gallons of purified water between filter changes.

7. Special Operations Force Mountaineering Equipment (SOFME)/$0.2

Remarks: This initiative will procure the necessary systems for an operational test of special climbing equipment. The SOFME provides a light weight system used for cliff assaults and urban scaling operations.

8. Personal Tracking System/$0.25

Remarks: These funds will procure and operationally test an individual locator/tracking system that weighs ounces but will permit rescue teams to quickly locate individuals who get lost, separated, or captured during reconnaissance/raid operations.

9. Flame Retardant Assault Suit/$0.2; Hazardous Material Gas Mask/$0.15

Remarks: These two initiatives go together. Together the system will provide an individual with the ability to survive in an airless, 2,000 degree fire environment for approximately 2 minutes.

10. Load Bearing Equipment (Assault)/$0.2

Remarks: Under this initiative, special load bearing equipment for assault/raid units will be procured and operationally tested. The equipment will be light weight, providing only for the portability of the warfighting necessities associated with raid operations.

11. Special Operations Improved Cryptographic System/$1.0

Remarks: These funds will provide for the operational test of a new, Non Developmental Item secure voice radio system that weighs 1.5 pounds and is 3.6 x 5.5 x 2.1 inches in size.

12. Small Unit Navigation System/$0.05

Remarks: Two state-of-the-art systems from two manufacturers will be operationally tested under this initiative. These systems weigh less than 5 pounds, are 6.5 x 7 x 2 inches in size, and can provide a unit with its position anywhere in the world with an accuracy of plus or minus 25 meters.

Questions Submitted by Senator John McCain

STRATEGY AND FORCE POSTURE

Senator McCain. One of the most critical problems we face during the next 5 years is the restructuring of our strategy and force posture to meet changing strategic and financial conditions. In your personal opinion, what are the major changes we should make in our strategy and force posture if a CFE and START Treaty are signed, if the Soviet and Warsaw Pact continue to decline as threats, and if real defense spending drops to levels no higher than those called for by President Bush? What major changes do you believe will be called for in terms of strategy and roles and missions? What major changes in total force structure?

General VUONO. I agree that the issue of determining the proper strategy and force structure to ensure our national security is of paramount importance. The international security environment and the domestic political environment are changing so quickly that considered assessments are difficult at this time. On the one hand, I believe we must maintain those strategic tenets and the required force structure necessary to deter war, defend the United States and its vital interests, and support our allies. On the other hand, some changes are not only necessary, but desirable. The specific changes should result from careful consideration of all the relevant factors. The Chairman, Joint Chiefs of Staff has recently initiated a Joint Strategy Review to assess the changes in the environment and to determine how well our strategy and forces achieve our national security objectives. The Joint Chiefs of Staff will consider the results of the Joint Strategy Review and recommend a national military strategy and force structure. Specific comments about changes should await the JCS recommendation.

I do not think major changes in roles and missions are necessary. We have just completed a major review of service roles and missions. The conclusion was that some revision is in order but that the assignment of roles and missions to the services was fundamentally sound.

With regard to changes in force structure, you should know that based on assumptions not dissimilar to your own, and careful analysis of the strategic environment, military strategy, the threat doctrine, the requirements of the theater commander and available resources, the Army plans to reshape its forces to ensure that we can provide the Nation with the land force it will require through the turbulent decade ahead. It is our assessment that while our basic roles in national security strategy will not change, the ways that we address these roles may change. For example, while the Army will continue to maintain forward deployed forces, these forces will likely be reduced as a result of concluded arms control agreements.

As I mentioned in some detail in my opening statement, we plan to reduce the size of the total force to preserve the quality and readiness of the Army throughout the transition period and into the 21st century. We intend to maintain a balanced force of light, heavy, and special operations forces in both the Active and Reserve components capable of responding to the uncertain challenges of the future. The fiscal year 1991 budget marks the beginning of our transition to this smaller, capable force.

Senator MCCAIN. What are the changes in procurement plans and RDT&E priorities?

General VUONO. The recent changes in the perceived threat indicate that while a convential war in Europe is less likely; the potential for conflict in the Third World will increase. We are modifying our procurement plans to reflect the reduced requirements caused by downsizing of the force. Therefore, the principles of lethality and survivability; maintenance of a strong technology base; essential war fighting capabilities and future investment with near term risk, consistent with this changing threat, combine to produce the following modernization considerations:

—Develop technology data packages, and defer production.
—Field to deterrent levels in selected systems.
—Limit product improvements and modifications to those which provide high return on investment.
—High/low mix, field capabilities by force packages.
—Reduce redundancy between systems.
—Leverage competitive strategy.
—Force packages synchronized with Force Structure changes.
—Maintain modern lethality for forward deployed and contingency forces.
—Accept increased mid-term risk.
—Continue key features of modernization plans.

The Army high priority requirements for Research, Development and Acquisition are:

—Protect key technologies for future modernization.
—Armor-Anti-Armor/Armor Systems Modernization.
—Deep Attack System.
—Light Helicopter (LH).
—Command and Control/Intelligence Electric Warfare (IEW).
—Forward Area Air Defense Systems (FAADS).
—Combat Service Support.

In addition, the Army will also embark on an accelerated retirement program to retire systems with intensive manpower/maintenance requirements, high fleet age, obsolescence based on threat, redundancy, and expensive operation and sustainment costs. Examples of these systems are:

Aviation
OV-1D
OH-58A
Air Defense
VULCAN
CHAPARRAL
Fire Support
8 inch Howitzer
M101A1 (105 MM) Howitzer
Conbat Service Support
Over Age Trucks

Senator MCCAIN. What changes in the mix and nature of Active and Reserve forces?

General VUONO. Addressing the challenges of the future will require a re-shaping of the Army. The restructured Army must be fully trained and ready to meet an evolving threat which is less oriented on the Soviet Union and Europe. The Army of the future will have fewer forces forward deployed, will be more focused on contingencies world wide, and will have a CONUS reinforcing/sustaining base of both light and heavy elements.

The Army has given considerable thought and analysis to its future shape. In brief terms, the concept is to prudently reduce CONUS forces, and then forward-deployed forces as the threat and completed negotiations permit. There are a number of ways reductions could occur. In all cases it will of necessity involve both Active and Reserve components since 52 percent of combat capability and 67 percent of combat support and combat service support structure are in the Reserve components.

The Army will use the Total Force Policy study, once approved, to guide these changes. The end state we see is a smaller Total Force; but a quality force that is more modem and better equipped; more ready and more flexible. The Reserve components will retain their vital role in this Total Force.

Senator MCCAIN. What changes in power projection forces?

General VUONO. The U.S. Army contributes to military power projection through the use of forward deployed, contingency, and rapid or sustained reinforcement forces. Our goal is rapid deployment of a tailored mix of heavy and light forces to reinforce forward deployed forces of our allies. We provide contingency and reinforcement forces for employment to the warfighting CINCs.

Army capabilities range from rapid power projection ("Just Cause") to sustained power projection throughout the world.

As a result of the reduction in threat and budget pressures, the principal change to the forces we use for power projection is that they are much less NATO-centered and are poised and ready for global or regional conflicts wherever those conflicts may occur. Our forces are multi-theater capable and have roles to play globally. We are developing a more balanced global perspective with contingency forces that are versatile, deployable, and lethal.

Senator MCCAIN. What changes in rapid deployment capabilities?

General VUONO. The Army of the 1990s will be a smaller and less forward deployed force. To enhance deterrence and ensure the strategic missions assigned to the Army can be executed consistent with emerging national military strategy, the Nation requires modern airlift capable of transporting a mix of heavy and light forces anywhere in the world. The Nation also requires fast sealift to rapidly reinforce early committed Army and Marine forces with heavy combat, combat support and combat service support forces. A rapid power projection capability is an essential element of credible deterrence. Deploying forces in a crisis, to establish a strong forward presence or to reinforce forward deployed forces of any service, can strengthen deterrence and prevent hostilities. The C-17 facilitates contingency operations which are the most likely future scenario. Using the C-17, the Army can deliver a tailored mix of forces and equipment to respond to any threat. With existing fast sealift ships, the Army can deploy a heavy division and corps level CS/CSS to Southwest Asia in about 3 weeks. As part of a Joint Task Force, the Army can provide unique capabilities such as ground air defense, heavy armor or robust engineer capabilities. Further, by putting the right mix of forces on the ground early, the need for even larger forces later may be precluded.

RESTRUCTURING OF CURRENT STRATEGY

Senator MCCAIN. Given current trends, how quickly do you personally believe we should restructure our current strategy and force posture away from a focus on the defense of NATO to one on global power projection and deterrence?

General VUONO. As previously stated, proper strategy and force structure to ensure our national security is of paramount importance. The international security environment and the domestic political environment are changing so quickly that considered assessments are difficult. On the one hand, I believe we must maintain those strategic tenets, and the required force structure, necessary to deter war, defend the United States and its vital interests, and support our allies. On the other hand, some changes are not only necessary, but desirable. The specific changes should result from careful consideration of all the relevant factors. The Chairman, Joint Chiefs of Staff has recently initiated a Joint Strategy Review to assess the changes in the environment and to determine how well our strategy and forces achieve our national security objectives. The Joint Chiefs of Staff will consider the results of the Joint Strategy Review and recommend a national military strategy and force structure. Specific comments about changes should await the JCS recommendation.

The Army plans to reshape its force structure to accommodate significant changes in the strategic environment. The restructured Army must be fully trained and ready to address a still dangerous threat in Europe. The preservation of peace in Europe through NATO will remain a central goal of the Army. The threat will be less . . . our warning time will be longer. The Army will have fewer forward deployed forces with the remaining forces focused not only on reinforcing NATO but also on worldwide contingency missions. CONUS based forces will consist of light, heavy and special operations forces capable of projecting power on short notice. The challenge is to prepare to deter or fight a future conflict whose scenario/threat is not clear.

FORCE STRUCTURE

Senator MCCAIN. If current trends continue, what are the primary contingencies, aside from the Soviet and Warsaw Pact threat that you personally feel we should structure our forces for during fiscal years 1990–2000?

General VUONO. There are three broad categories of contingencies for which we must structure our forces in addition to the Soviet/Warsaw Pact threat. The first is the peacetime engagement of our Armed Forces in the areas of nation-building, security assistance and support to civil authorities. The second is low-intensity conflict—the pernicious and growing threat posed by terrorism, drug trafficking, instability, and insurgencies. The third is regional conflict in the Third World—an area in which military capabilities are improving significantly. What causes us problems is that the only certainty is uncertainty. We just do not know where the next contingency will occur. This was true in Berlin in 1948, in Korea in 1950, in Lebanon in 1958, and in Grenada in 1982. Therefore, we must be structured to respond to contingencies all along this continuum.

FUNDING LEVELS AND RESULTING RISKS

Senator MCCAIN. None of the testimony this committee has heard to date describes the extent to which the fiscal year 1991 budget adequately funds the forces we need, or provides a detailed picture of the risks inherent in this level of funding and the current FYDP. Could you provide a detailed statement of your assessment of the adequacy of this funding and the resulting military risks?

General VUONO. The fiscal year 1991 budget is carefully structured within manpower and fiscal constraints to optimize the Army's warfighting capabilities against the multiple and varied threats of the international environment. The fiscal year 1991 budget also represents the first step in the planned transition to the smaller but versatile, deployable and lethal Army of 1995. The budget supports an Army that reflects the changing threat in the European theater but provides a degree of reversibility should the situation deteriorate. It generally continues the trends of the past several years with sharp reductions in the procurement accounts, moderate growth in research and development and slight reductions to the personnel and construction accounts. Thus the fiscal year 1991 budget adequately funds the required forces.

To my knowledge, the Army has never been budgeted to a level that met all the threat possibilities. There is a level of risk in every budget. The cumulative effects of half a decade of declining resources coupled with rising sustainment costs have

increased that level of risk. The level has been minimized by the Army's active and forward looking efforts to shape the Army of the future. The acceptance of this level of risk in this budget has been made possible by the reduced threat from the Warsaw Pact countries and the general scaling back of the Soviet threat worldwide.

ANTI-ARMOR SYSTEMS

Senator MCCAIN. Under current plans, the Army will be halting procurement of many anti-armor systems, especially TOW and Maverick missiles, well short of original inventory objectives. Has the Army set new inventory objectives for these missiles in light of the current developments in Europe? What would be the impact on U.S. capabilities if it had to draw down on current inventory to meet the requirements of a regional conflict similar to the 1973 Arab-Israeli War? In such an event, how would the United States restore its inventory of anti-armor systems if these missiles had gone completely out of production?

General VUONO. The Army is adjusting its missile inventory objectives as a result of proposed force structure reductions. Current TOW2B procurement through fiscal year 1994 meets the Army's requirements for our contingency forces and forward deployed forces. TOW2B inventory will provide these forces two combat loads for each weapons platform. Regional conflicts can be met with current TOW2 and TOW2A missile stocks. Inventories will be replenished with the Advanced Missile System, Heavy (AMS–H). AMS–H, which enters Proof of Principle in fiscal year 1992, will defeat far term threat armor (fiscal year 2002). First units equipped with AMS–H will be fiscal year 1998.

STRATEGY AND FORCE POSTURE

Senator MCCAIN. You provide a good overview of your strategic priorities in your posture statement. One of the most critical problems we face during the next 5 years, however, is the restructuring of our strategy and force posture to meet changing strategic and financial conditions. In your personal opinion, what are the major changes we should make in our strategy and force posture if a CFE and START Treaty are signed, if the Soviet and Warsaw Pact continue to decline as threats, and if real defense spending drops to levels no higher than those called for by President Bush?

Admiral TROST. The remarkable changes now unfolding worldwide, especially in the Soviet Union and Eastern Europe, suggest that our Nation is on the verge of entering a new strategic era—one that calls for a reexamination of future planning and specific resource priorities. Today, the Soviet and Eastern European concentration on internal reform has placed them in a less immediately threatening posture than at any time since the end of World War II. Progress in negotiations to reduce strategic arms and conventional land force imbalances between NATO and the Warsaw Pact will allow a reduction in strategic weapons and some European based U.S. military forces. As agreements are finalized, we will likely be able to plan on an increase in the warning time available prior to any future conflict with the Soviet Union.

However, while we are encouraged by ongoing political changes in the Soviet Union and Eastern Europe, we should not lose sight that Soviet military capabilities—particularly naval capabilities—remain formidable, are being rapidly modernized, and clearly exceed all legitimate requirements for a strategy of reasonable sufficiency and self-defense. The Soviet launching of Tbilisi aircraft carriers and Kirov strike cruisers, which could form the core of a Soviet naval power projection force, as well as the high construction rate of modern nuclear submarines, stand out as inconsistencies in Soviet efforts to redirect resources toward defensive armaments.

The greatest challenge we face in the period ahead is to carefully balance positive political changes in the Soviet Union and Warsaw Pact with a clear-eyed understanding that the Soviet's continue to pose the most significant military threat in the world to our Nation and our allies. In the short term, we must proceed cautiously to see where internal Soviet political developments lead, to assure ourselves that newfound Soviet openness and liberalization continue to expand, and most importantly, that proposed reductions in Soviet military capabilities are in fact carried out.

Destabilizing events in other areas of the world reflecting rising population pressures, nationalist movements, religious zealotry and the struggle for control of critical resources are other factors that must be weighed in conjunction with the measure of our future defense needs vis-a-vis the Soviet Union and Central Europe. The Tianamen Square massacre; instability in the Philippines, Colombia, Lebanon, and

other nations; continued tension in Korea; the "drug war"; and terrorism pose unique problems often distinct from the superpower competition.

The global proliferation of sophisticated high technology weapons, often to Third World regimes hostile to U.S. interests is a reality that must be factored into our security planning. Our access to, and ability to freely conduct combat operations from overseas bases is increasingly problematic. Moreover, U.S. national security and economic interests are becoming more widely dispersed and transnational in character than in the past.

It is also clear that in the Third World, where we are most likely to find ourselves facing military challenges, we also find out that national interests coincide with most likely adversaries in four major geographical regions or crisis "hubs": the Western Pacific, Indian Ocean/Persian Gulf, Mediterranean Sea, and Caribbean Sea—precisely those areas normally not easily accessible or influenced by land-based forces—and therefore where sea-based power projection forces are forward deployed. Naval forces continue to be the primary option in responding to crises because they can be tailored to a specific situation, are mobile and generally unfettered by basing concerns and can be positioned or reduced without signaling retreat or loss of national resolve.

Keeping these concerns about the international security environment in mind, our overall national military strategy—calling for deterrence of conflict through forward defense in coalition with our allies—will remain valid for the foreseeable future albeit with less emphasis on Central Europe and more emphasis on deterrence of conflict in the Third World. This is so because our overall national security objectives remain constant even as the threats we face change. We have a core requirement to ensure that the United States remains a free and independent nation with its fundamental institutions and values intact. The United States remains a maritime nation, dependent on trade and free access to foreign markets, via the worlds oceans, for our economic well-being. We will continue to seek stable alliance relationships, and to retain the means to favorably influence global events. These enduring objectives will be best accomplished with our current forward strategy rather than a modified strategy which emphasizes reaction from CONUS as some have suggested. We must recognize that we can not effectively deter with ships in homeport or aircraft in CONUS far from the scene of crises.

In short, in order to protect our national interests in the emerging security environment, while accommodating decreasing fiscal resources, it is now necessary to redirect our defense planning priorities—cutting back on some of the forces needed to defend Central Europe as the threat in the region diminishes. Meanwhile, we should preserve our naval capabilities—the force needed to ensure we can return to Europe if events so require and the force so often needed to protect our interests in the Third World. This course of action will best ensure that the apportionment of defense resources matches the threats we must counter.

Senator McCain. What major changes do you believe will be called for in terms of strategy and roles and missions?

Admiral Trost. Our basic strategy, as I discussed in my previous remarks, remains valid, and I foresee no significant changes. Specific roles and functions of the services have recently been thoroughly studied as required by Title 10, United States Code, as amended by the Goldwater-Nichols DOD Reorganization Act of 1986. Service responsibilities have been clearly defined to ensure duplication of effort is minimized. I do not believe that current roles and functions will change significantly in the period ahead. However, we will continue to examine roles and functions as the geostrategic security environment changes, to ensure the most effective use of our resources.

Senator McCain. What major changes in total force structure? What changes in procurement plans and RDT&E priorities?

Admiral Trost. Our current force structure could exist within the framework of the proposed START and CFE Treaties and, therefore, no changes would be required. However, as the perception of the Soviet and Warsaw Pact threat and worldwide commitments diminish, the force structure may change. Procurement alternatives are currently under consideration which take these factors into account, but we must be careful not to make any irreversible decisions. RDT&E priorities will necessarily change as procurement and force structure plans change. We are currently evaluating the proper balance among RDT&E categories in relation to possible changes in force structure and procurement.

Senator McCain. What changes in the mix and nature of Active and Reserve forces?

Admiral Trost. As we consider force structure options in light of the dramatic changes in Eastern Europe and look for ways to meet budgetary limitations, all ele-

ments of the Navy's Total Force—Active, Reserve, and the civilian sector—are being reexamined to determine the best force mix. Our objective in this process is to maintain a balanced force capable of meeting our global commitments while avoiding the debilitating hollowing of the Navy (Active and Reserve) which occurred in the 1970's.

To achieve this balanced force, it is essential that we maintain sufficient Active forces to meet our normal forward-deployed peacetime commitments and provide immediate response to regional crises and contingencies. Even with a reduction of the threat from the Soviet Union and Warsaw Pact, the Navy has worldwide responsibilities that remain unchanged. Increasing the ratio of Reserve forces at the expense of reducing Active duty forces without a commensurate reduction in these routine commitments removes any measure of planning flexibility to ensure that we can maintain reasonable deployment lengths and turnaround times.

The Naval Reserve is structured to make up the difference between peacetime and wartime requirements and to provide augmentation when required. Over the last 8 years, the Selected Reserve has grown about 50 percent and currently represents about 20 percent of Navy's manpower. This growth was required to support the increasing number of missions and combat capability that Navy has placed in the Reserve. For example, all of Navy's airlift squadrons operating in the United States, strike rescue helicopter squadrons, and cargo handling battalions are in the Naval Reserve as are 35 percent of our maritime patrol air assets and 26 percent of our frigates.

Together, under Navy's Total Force approach, the Active and Reserve components represent adequate force structure for deterrence—and if deterrence fails—for war at an affordable cost.

Changes to the current force structure will be considered on a mission-by-mission basis. In making these decisions, the following issues are pertinent:

Availability of reserve assets.—If scarce resources are to be invested in manpower, modern equipment, and training for the Reserves, it is imperative that operational commanders have immediate access to those assets for use across the entire spectrum of conflict. Today, for a variety of reasons, Naval Reserve Force ships and squadrons are not readily available, short of mobilization, for rapid, indefinite deployment in crisis or contingency operations.

Demographics.—The reality of shrinking manpower pools, as well as increasing competition with the civil sector, will impact both Active duty and Reserve forces. Over time, as we draw down Active duty personnel, there will be a smaller pool of experienced, qualified people to fill the Reserve ranks. It is simply a case of numbers that cannot be ignored.

Cost.—There is perception that shifting forces to the Reserve always results in significant cost savings. That perception is not accurate. Real savings may be marginal. For instance, it is only 10 percent less expensive to maintain a ship in the Naval Reserve than it is to maintain it in the Active fleet.

As a final point, Congress has directed the Department of Defense to study DOD and the services' Total Force policies. The findings of this study group, due in December 1990, may lead to changes in DOD guidance which will impact the force structure of all services. However, it would be premature to speculate on any changes which may occur as a result of the study until the final report is published.

Senator McCain. What changes in power projection forces?

Admiral Trost. The National Military Strategy is founded on deterrence of conflict across the spectrum of warfare. For the Navy, this mandates the forward deployment of credible, combat ready power projection forces—in particular, carrier battle groups—to those regions where our allies, our national interests and nations belligerent to those interests most often coincide, along the maritime flanks of the Soviet Union and in crisis prone regions of the Third World.

On a daily basis, carrier battle groups are the principal power projection force available to the President to protect American lives and national interests. By routinely operating forward, these forces act as a visible symbol of the U.S. commitment to regional stability and the security of friendly and neutral nations. In times of crisis, they convey a calculated ambiguity of intent and provide policy makers with the means for a calibrated response. At the same time, their presence on the high seas does not irrevocably commit the United States to a given course of action. Carrier battle groups are deployable, can remain indefinitely in the region, off shore, over the horizon, unseen but not forgotten and ready to operate at varying orders of magnitude. As the locations of future conflicts become more uncertain and diverse, and as our overseas basing infrastructure decreases, reliance on sea-based power projection forces is likely to grow.

Reduction of Soviet military forces in Central Europe, as a result of successful arms control negotiations, will allow a reduction of some U.S. land based power projection capabilities without increasing the risks of executing our forward strategy. However, a reduced need for land based power projection forces in Central Europe does not affect the global requirements for naval forces because we still must have the capability to deter and counter a highly capable Soviet Navy and other potential adversaries, particularly in the Third World.

Current naval force levels are in careful balance with overseas deployment and crisis response requirements. Changes as a result of fiscally mandated reductions or additional tasking, such as expansion of Navy's support for the Nation's counternarcotics efforts in the Caribbean Sea, will somewhat curtail our ability to routinely deploy forces to other regions. Ultimately, such a course of action will lessen our effectiveness in deterring crisis or conflict and, should deterrence fail, we may be out of position to promptly respond.

Senator MCCAIN. What changes in rapid deployment capabilities?

Admiral TROST. As the threat from the Soviet Union diminishes, the United States will increasingly determine its defensive needs based on the threats that we must counter from other sectors. Naval power projection forces provide a unique deployment capability in that they can deter with an extended presence on station in addition to being able to quickly respond should deterrence fail. This capability is not found in most other force options, which would have to come from CONUS. Surge deployment forces, garrisoned in CONUS, must be judged as an additive, not competitive, requirement with naval forces. Current rapidly deployable power projection capabilities—Navy and Marine Corps forces, Army light and airborne divisions, Air Force bombers and Special Warfare teams—should be sufficient for most future needs. Standing-up additional rapid deployment forces, as some have urged, is fiscally unaffordable and is clearly unnecessary if we are prudent and preserve current capabilities.

Senator MCCAIN. Given current trends, how quickly do you personally believe we should restructure our strategy and force posture away from a focus on the defense of NATO to one on global power projection and deterrence?

Admiral TROST. We are approaching a historic juncture in U.S. national security policymaking. Today, many of the familiar bipolar aspects of the international security environment that have existed for the past four decades are in a remarkable state of flux. In particular, the likelihood of direct conflict with the Soviet Union in Central Europe has greatly diminished. All Americans hope that the profound changes that are ongoing in Europe signal the end of the Cold War era. However, while we breathe a collective sigh of relief at this outcome, few thoughtful observers would predict that the passing of this familiar geostrategic environment means the end of international competition and conflict.

Global power projection and deterrence outside the NATO context are long standing roles and functions of naval forces. Recent operations in the Persian Gulf and statements by leaders of various nations of the Pacific basin attest to the stabilizing influence of forward U.S. naval presence over the past four decades. It is essential that we retain sufficient forces to be able to maintain this presence in the future.

Progress in negotiations to reduce conventional land force imbalances between NATO and the Warsaw Pact may allow us to somewhat reduce the land forces needed to deter conflict in Central Europe. But we must continue to posture our defense against capabilities rather than intent, and Soviet military forces—particularly naval capabilities—are robust, globally positioned and likely to remain so for the foreseeable future. We must proceed cautiously to maintain a military posture that will continue to effectively deter the Soviet Union and if deterrence fails, confront them globally with superior maritime forces. Intentions can change much more quickly than capabilities.

While NATO has been and will continue to be an enduring element of our overall security equation, our national military strategy is globally based with a coalition of friendly nations—those in NATO and many others throughout the world.

Senator MCCAIN. If current trends continue, what are the primary contingencies, aside from the Soviet and Warsaw Pact threat, that you personally feel we should structure our forces for during fiscal years 1990–2000?

Admiral TROST. Many areas of the world remain unstable, suffering from a seemingly endless array of civil wars, insurgencies, and regional or border conflicts. These instabilities are rooted in enduring ills such as poverty, debt, economic malaise, resource competition, religious zealotry and social injustice. They in turn provide fertile ground for the rise of other problems such as international terrorism and drug production.

Predicting contingencies is at best an inexact art difficult even in stable times—much less during the remarkable period of rapid and uncertain change we now face. Yet, it is certainly possible to examine the broad trends that are occurring throughout the world to better understand specific areas of concern. From this, we can chart our course for the future to ensure our forces are the right ones to best protect the Nation's security interests.

Effective deterrence is best accomplished by maintaining a visible, on scene presence that has the staying power to sustain our action. For the Navy, this equates to having sufficient combat ready forces—Carrier and Battleship Battle Groups and Amphibious Ready Groups—in those regions where our primary national interests lie and where those nations likely to be belligerent to our interests most often coincide. These regions—call them "crisis hubs"—are the Western Pacific, Indian Ocean/Persian Gulf, Mediterranean and increasingly the Caribbean Sea.

In the future, deterring threats to our interests will likely become more difficult as access and use of overseas bases becomes more constrained and as hostile nations continue to procure high technology weaponry—including nuclear and chemical weapons. This will make executing the Navy's role of protecting U.S. interests abroad even more dangerous and complex.

These realities, along with the fact that the Soviet Union remains a formidable military power, must shape the discussion of our military needs. This, in fact, is the reason that the Navy we need is essentially the Navy we have today, and that we are building for tomorrow.

Senator MCCAIN. None of testimony this committee has heard to date provides a detailed estimate of the risks inherent in the forces and funding provided in the current fiscal year 1991 budget and FYDP. Could you provide your assessment of these risks?

Admiral TROST. As a result of the fiscal year 1991 budget we made some decisions regarding retirement of ships and submarines, including two battleships. The inherent risks involved with reducing our forces continues to be our ability to provide proper deterrence in deployment hubs. Our reaction time to crises with a reduced force could possibly be affected. These are some of the considerations we are currently reviewing as we develop the fiscal year 1992 Program Objectives Memorandum.

Senator MCCAIN. There are reports that the Department of Defense is considering cutting the carrier force to 12 carriers and cutting one active and one reserve naval air wing. What is your personal assessment of the impact of such cuts on our contingency capabilities, optempos and personnel, and the risks we would face as a result of such force cuts?

Admiral TROST. We are currently in the process of developing our 1992 Program Objectives Memorandum (POM). Within the POM process we look at all alternatives in determining the size of our force and the implications therein. Upon completion of that process we should be able to provide a good assessment of risks involved in our decisions.

Senator MCCAIN. How would this assessment be affected if we also deactivated one or two of our remaining battleships?

Admiral TROST. The impact of deactivating any battleships needs to be reviewed within the context of how the total force is structured. We are looking at this now as we develop the fiscal year 1992 Program Objectives Memorandum and, within that process, all alternatives are being considered.

RESTRUCTURING OF OUR STRATEGY/FORCE POSTURE

Senator MCCAIN. One of the most critical problems we face during the next 5 years is the restructuring of our strategy and force posture to meet changing strategic and financial conditions. In your personal opinion, what are the major changes we should make in our strategy and force posture if a CFE and START Treaty are signed, if the Soviet and Warsaw Pact continue to decline as threats, and if real defense spending drops to levels no higher than those called for by President Bush?

General WELCH. In structuring our forces to support the national military strategy, we can neither adopt the unrealistic assumption that nothing has changed, nor the historically naive presumption that everything has changed. Indeed, the heartening changes we see in the Soviet Union and Eastern Europe reflect the success of our policies. The national military strategy continues to emphasize deterrence—combining forward defense and flexible response to ensure that no adversary could ever expect to gain by attacking the United States or its allies. This strategy supports enduring national security objectives, while providing for a coherent, cost-effective development of military forces. In addition, to maintain effective deterrence

in the future, our strategic nuclear forces, theater nuclear forces and conventional forces must remain balanced. While the probability of conflict with the Soviets is declining, the Air Force must continue to provide a visible presence in Europe that demonstrates commitment, assures day-to-day access, and represents real military capability across the spectrum of conflict (nuclear and conventional).

Although the decreasing Soviet threat will allow us to alter our force structure, including the number of U.S. forces permanently stationed overseas, U.S. forces will still be required to balance regional power centers. Our forces must be mobile, flexible, rapidly deployable over longer distances, and able to respond with unprecedented precision and effectiveness. Accordingly, we must structure our air forces such that there remains an appropriate balance between CONUS and overseas bases, and Active and Reserve components.

Our basic nuclear strategy will remain largely unchanged. It is key to maintaining stability and balance with the Soviet Union and in deterring any other potential aggressor. However, the outcome of current events, including arms control negotiations, will change the qualities and quantities required of nuclear forces. Arms control will set the limits for future strategic nuclear force planning. Triad modernization will be more important in light of the reduced force levels dictated by START. The focus of these efforts should be to provide stable deterrence vis-a-vis the Soviets while providing a credible deterrent capability against emerging regional nuclear powers.

Senator MCCAIN. What major changes do you believe will be called for in terms of strategy and roles and missions?

General WELCH. In structuring our forces to support the national military strategy, we can neither adopt the unrealistic assumption that nothing has changed, nor the historically naive presumption that everything has changed. Indeed, the heartening changes we see in the Soviet Union and Eastern Europe reflect the success of our policies. The national military strategy continues to emphasize deterrence—combining forward defense and flexible response to ensure that no adversary could ever expect to gain by attacking the United States or its allies. This strategy supports enduring national security objectives, while providing for a coherent, cost-effective development of military forces.

Requirements for a flexible, mobile and lethal power projection force will draw heavily on inherent characteristics of airpower: speed, range, flexibility, precision and lethality. To meet the challenge our strategy must capitalize on modern fighter forces that provide reach with the ability to quickly concentrate and sustain massive, precise and flexible firepower. We must also capitalize on our air refueling capability, greatly extending our range and flexibility, increasingly important as we reduce forward deployed forces.

Global power projection requires long-range, high endurance, large payload capabilities. To that end, the conventional role of the heavy bomber remains pertinent. Long-range bombers can reach any location on the globe, staging from secure bases, with only a single aerial refueling.

It is important to remember that even with a declining near-term threat, the Soviet military capability remains high and continues to require U.S. counter-balancing forces, including the significant contributions of strategic nuclear, theater nuclear, and conventional capabilities. Consequently, we must continue to contribute to deterrence across the range of possible threats, and be able to respond appropriately.

Our support of counter-drug operations will also become more important. We are committed and uniquely postured to employ surveillance assets and other capabilities to help stem the flow of drugs. Our surveillance and airlift capabilities multiply the special operations forces' contribution to the National Drug Control Strategy.

We anticipate no change or realignment in roles and missions across the services, although some roles and missions may increase in importance, such as counternarcotics on a day-to-day basis and airlift on a wartime footing.

Reduced force levels, increased emphasis on maneuver warfare, and access to fewer forward bases will necessitate an even greater dependence on the force-enhancing capabilities of space systems. These systems are essential for monitoring treaty compliance, command and control, communications, navigation, environmental monitoring, surveillance and warning [deleted].

Senator MCCAIN. One of the most critical problems we face during the next 5 years is the restructuring of our strategy and force posture to meet changing strategic and financial conditions. In your personal opinion, what major changes in total force structure should we make if a CFE and START Treaty are signed, if the Soviet and Warsaw Pact continue to decline as threats, and if real defense spending drops to levels no higher than those called for by President Bush?

General WELCH. The maintenance of a stable nuclear balance vis-a-vis the Soviet Union must remain paramount—only Soviet nuclear forces threaten our national survival. Conventional capabilities that provide a rapid, tailored response with a capability to apply force selectively, anywhere on the globe, will remain essential to keep local conflicts and tensions from spreading and threatening U.S. interests and allies. U.S. forces must be capable of hitting hard, precisely, and terminating conflict quickly in order to deter aggression or the threat of it. The requirement for these capabilities is not new, but the balance among them is shifting—reduced emphasis on combating heavy Soviet conventional forces and more attention to other global contingencies.

Given the unpredictability of the future, our force planning must call for an increased emphasis on force projection capabilities—a shift toward even more flexible, rapidly responding, precise, lethal forces with global reach. The Air Force's focus will be on emphasizing those inherent characteristics of airpower—speed, range, flexibility, precision, and lethality—which best support U.S. national security in the uncertain world of the 1990s and beyond. Our planning will be conducted in complementary fashion with that of the Army and Navy.

Senator MCCAIN. What changes in procurement plans and RDT&E priorities?

General WELCH. We do not see any dramatic changes in the foundations supporting current U.S. national security—a flexible response strategy that employs a mix of nuclear and conventional deterrent capabilities, forward defense, and strong alliances—but we do see a shift in emphases.

Conventional capabilities will remain essential to keep local conflicts and tensions from spreading and threatening U.S. interests and allies. We must be able to provide a rapid, tailored response with a capability to intervene on a global basis against a well-equipped foe.

Given the unpredictability of the future, we see increased emphasis on force projection capabilities—a shift toward even more flexible, rapidly responding, precise, lethal forces with global reach. Global C^3I reach also becomes more critical in the future. In developing these attributes in our R&D and procurement programs, we will continue to stress high quality, modern, and ready forces, although at reduced levels, and the force multiplier effects of advanced technology to provide the maximum warfighting potential from smaller forces. Prudent R&D investment will also help avoid strategic surprise.

Senator MCCAIN. What changes in the mix and nature of Active and Reserve forces?

General WELCH. It is premature to predict precise changes in the mix and nature of Active and Reserve forces in light of the changing world political environment. As we plan for the Air Force of the future, however, the magnitude of forecast defense spending cuts will lead us to reexamine the size and role of the Active and Reserve components. While we envision making the majority of force structure reductions from the Active force, factors such as force sustainment may lead to reductions in the size of the Reserve component. We will also examine adjusting Selected Reserve Component forces, generation requirements consistent with when they would be needed for employment.

Senator MCCAIN. What changes in power projection forces?

General WELCH. The future security environment will demand U.S. forces that are capable of rapid global power projection. This necessity for flexible and long-range power projection will see increased reliance on landbased air power because of its inherent speed, range, flexibility, lethality, and sustainability. In joint actions, air forces will join ground forces in spatial control and naval forces in access control. The Air Force is unique among the services in that it can cover any distance, unconstrained by geography; move quickly; concentrate force with surprise and speed; and offer a range of lethal and non-lethal response options to U.S. decision makers.

The power projection capabilities of the U.S. Air Force are unmatched. With one refueling, long-range aircraft (bombers, Airborne Warning and Control System (AWACS), airlifters) can project conventional power to any spot on the earth's surface within 24 hours. With the Air Force's emphasis on lean and mean operations, tactical air power moves forward with very little baggage compared to the firepower it delivers. Another often overlooked capability of long-range bombers is sea control and surveillance. Two B–52s can surveil an area the size of the South China Sea. Long-range bombers have an unmatched mining capability and provide quick response anti-ship capability.

History has shown that land-based air can be quickly used to support our national interests, giving our National leadership the flexibility to adequately respond to rapidly emerging situations. When North Korea invaded the South, the Air Force was

fighting the next day. In Operation JUST CAUSE, Air Force combat aircraft, launched from the United States, were at their targets within seconds of the planned time, only 48 hours after the decision to execute.

Airlifters, tankers, surveillance aircraft, and command and control aircraft are also valuable in power projection. For example, AWACS aircraft have often demonstrated national influence simply by observing the adversary's every move.

Land-based air has been very successful at achieving political objectives. A Brookings study examined the use of military forces to achieve political objectives in the postwar era, concluded that the use of land-based combat aircraft was associated with higher percentages of positive outcomes. The Air Force can deter, provide a tailored response, or punch hard when required.

Senator MCCAIN. What changes in rapid deployment capabilities?

General WELCH. Rapid deployment capability is absolutely essential to our future strategy. U.S. overseas forces will likely be reduced in many areas of the world. While the risk in Europe has been reduced, Third World conflicts continue to erupt. The requirement for airlift to support our commitments throughout the world continues to exceed our capability. We must be able to deter conflict when our key national interests are at stake. Clearly, this means we will rely more than ever on fast deployment capabilities.

The C–17 program is key to providing fast deployment to respond to threats worldwide. The C–17 overcomes both the quantitative and qualitative shortfalls that exist with today's fleet. The C–17 program increases our strategic airlift capability by one third and reduces theater airlift requirements by directly delivering equipment and supplies to forward locations. On the quantitative side, improved ground maneuverability and shorter ground time gives the C–17 the ability to mass three times the force of the C–5. Additionally, shorter landing distances give us the flexibility to operate into three times the number of airfields as the C–5 or C–141.

Senator MCCAIN. Given current trends, how quickly do you personally believe we should restructure our current strategy and force posture away from a focus on the defense of NATO to one on global power projection and deterrence?

General WELCH. We have already begun this process, but are taking care not to outpace changes in our strategy or the threat. This past fall, Secretary Cheney undertook an exhaustive look at trends in the global environment to prepare his Defense Planning Guidance. He recognized that, although the Soviet Union still maintains tremendous military capability, there are many elements that have changed. We have reevaluated the likelihood of major Soviet armed aggression in Europe and probable warning time we could expect. We have begun to reduce the number of U.S. bases overseas and U.S. forces stationed permanently overseas will begin to decline shortly. We also recognize non-Soviet security challenges are likely to increase, and we must consider the proliferation of high technology weaponry, including long range ballistic missiles, chemical, biological, and nuclear systems.

Consequently, our strategy increasingly relies on mobile, highly-ready, well-equipped forces with solid power projection capabilities. We are restructuring our forces with more flexible, mobile, and lethal power projection capabilities.

CURRENT TRENDS

Senator MCCAIN. If current trends continue, what are the primary contingencies, aside from the Soviet and Warsaw Pact threat, that you personally feel we should structure our forces for during fiscal years 1990–2000?

General WELCH. A number of dynamic and rapidly changing factors are creating a significantly different world environment as we approach the 21st century. A prominent characteristic of the world in the 1990s and beyond may well be instability. While the Soviets appear to be shifting their focus toward addressing long-standing internal economic, political, and societal problems, they will retain a significant military capability, both nuclear and conventional. Despite some initial reductions, Soviet military capabilities built up during 20 years of relentless growth in Soviet defense spending still remain. Soviet policy declarations reflect changes in intentions, but contain no guarantee of irreversibility.

We will also face security challenges in other, even less predictable areas around the world. The United States has important security objectives in the developing world: promoting freedom and democracy; protecting key strategic resources, choke points, and overflight areas; nurturing defense commitments and security relationships; and stopping the flow of drugs into our Nation. The continued spread of sophisticated weapons—nuclear weapons, ballistic missiles, advanced tactical aircraft, modern tanks, and cruise missiles—enable a wide variety of states to pose potentially dangerous threats to U.S. security or that of our security partners.

The combination of continued threats to America's national security interests, the proliferation of sophisticated weapons, and reduced numbers of overseas U.S. forces in this unstable world presents new challenges for the U.S. military. The likelihood that the U.S. military will be called upon at some time and place to defend U.S. interests in a lethal environment is high—but now, more than ever, the time and place are difficult to predict.

FUNDS FOR FORCES

Senator MCCAIN. None of the testimony this committee has heard to date describes the extent to which the fiscal year 1991 budget adequately funds the forces we need, or provides a detailed picture of the risks inherent in this level of funding and the current FYDP. Could you provide a detailed statement of your assessment of the adequacy of this funding and the resulting military risks?

General WELCH. The Air Force is more capable today than at any time in history. However, the prospect of further cuts, following 5 years of consecutive defense budget reductions, will constrain our future capability. This will be offset in part by Defense Management Review (DMR) initiatives which will reduce the cost of modernizing, operating, and maintaining the Air Force. This is expected to save $10.9 billion through fiscal year 1995 by streamlining the acquisition process, operations, and training. Despite these and other potential savings, we must carefully balance our investments in the major areas of readiness, modernization, force structure, and combat sustainability.

Today's fiscal reality makes it impossible to support each area completely, so we must make difficult choices. Our first priority must be to have a modernized force, manned by quality people, which is combat ready. To afford this, we are forced to make painful reductions in force structure and sustainability, which increases risk. The current international environment allows us to accept the risk inherent in a smaller, less sustainable force to preserve critical readiness and modernization efforts.

FORCE OF MOBILE MISSILES

Senator MCCAIN. General Chain, the commander of the Strategic Air Command, recently stated that engineers and intelligence analysts had come a long way in helping us understand how to find and target the Soviets' force of mobile missiles, which would be a key target for the B–2 in a nuclear war. Would SAC use the B–2 to attack mobile missiles during the conventional phase of a war between NATO and the Warsaw Pact to degrade the Soviets capability to escalate to nuclear operations? Would the B–2 be used against other targets, such as defense industry, which would support the war effort during a prolonged conventional war?

General WELCH. Any decision to attack Soviet nuclear forces rests with the National Command Authorities.

In the conventional phase of war between NATO and the Warsaw Pact, certain SAC resources could be allocated to the theater commander for his use in prosecuting the conflict. It is up to the theater commander and his staff to decide how, and against what targets, he would employ allocated bomber forces.

TACTICAL AIRCREWS

Senator MCCAIN. Currently, Air Force and Navy aircrews frequently train at low altitudes and high indicated airspeeds which exceed the safe escape envelope of current ejection seats. Does the Air Force have any plans to investigate the capability of the new ejection seat developed jointly by Talley Industries and the U.S. Navy, which may be able to expand the safe ejection up to 700 KIAS?

General WELCH. Tally Industries has conducted independent ejection seat testing at its Utah facilities. However, the Navy has no contract with Talley to develop an ejection seat.

Air Force analysis of the Talley ejection seat (S4S) indicates that while fins added to the side of the seat provide additional high speed ejection stability, the pilot would still suffer fatal wind blast injuries. The S4S seat does not solve critical high speed, low-altitude ejection problems.

We are happy with our current ACES II ejection seat on the F–15 and F–16, but we are exploring improvements to incorporate into the ATF. The Air Force will soon submit a report to Congress, in accordance with the Appropriations Conference Report, addressing our requirements and plans for supersonic aircraft ejection. The Talley seat, among others, will be addressed in more detail in that report.

STRATEGY AND FORCE POSTURE

Senator MCCAIN. One of the most critical problems we face during the next 5 years is the restructuring of our strategy and force posture to meet changing strategic and financial conditions. In your personal opinion, what are the major changes we should make in our strategy and force posture if a CFE and START Treaty are signed, if the Soviet and Warsaw Pact continue to decline as threats, and if real defense spending drops to levels no higher than called for by President Bush? What major changes do you believe will be called for in terms of strategy and roles and missions?

General GRAY. (Please note that because both questions call for a discussion of a change in strategy, one answer will be provided.) Deterrence, forward defense, and coalition warfare are the key tenets of our National Military Strategy. For the near term, and quite possibly into the next century, the stability and successes that adherence to these tenets has afforded us speaks for their continued utility. We believe it is the manner in which this operative guidance is executed that is the key to any change in the performance of our strategy. Continued success will determine whether or not the strategy itself remains as we now know it.

Any discussion of roles and missions, or more properly roles and functions, should concern itself with the development of military capabilities rather than the use of such capabilities. Within this context, Admiral Crowe completed, and General Powell forwarded to the Secretary of Defense, a report mandated by the DOD Reorganization Act of 1986 that reviewed the roles and functions of the services. The report was developed in consultation with the service Chiefs. The report reaffirmed the fundamentally sound areas of existing organizational and operational focus. However, the point to be made is the use of military capabilities, in support of our strategy, lies outside of any debate of jointly agreed-upon developmental responsibilities. Some present and future capabilities are of greater utility than others in the emerging international security environment while others may be more appropriately viewed as a hedge against a worst-case, but least-likely scenario. Both are required, but in these days of budgetary restraint, existing capabilities need to be supported at levels commensurate with their likely use.

A review of ongoing congressional testimony indicates that some are convinced that any change to the manner in which the present strategy is executed, from a minor or major adjustment to a complete strategic rewrite, centers on four points:

1. An assessment of the whole threat-implication of a global view
2. Relative utility of forces
3. Determination of where our commitments lie and what type they might be
4. Thinking through the process to the end

With that in mind, we agree that the reduced liklihood of war in Europe, especially one that would escalate into a nuclear holocaust, does alter the strategic calculus. However, it remains imperative to identify those other threats, which have always existed and challenged our interests. Indeed, some facts of life have gone unaltered by the changes in Eastern Europe.

A basic assumption that would drive any change in our strategy or how we intend to execute it would be recognizing that the U.S. is an "island nation". It is important to realize that this does not connote either an isolationist predisposition or reflect a geographic absolute. Rather, it is aimed at describing our strategic culture or approach to world politics. Geopolitics and, as importantly, economics frame the constants we cannot ignore.

The fortunate geographic position of the U.S. parallels with that of Great Britain's, the classic island power. Neither share land borders with any potential enemy sufficiently powerful to threaten it directly. Historically, an island nation is predisposed to use the oceans as both a sword and a shield.

As a sword, the oceans are used as the active medium of political, economic, and military linkage between the island nation and those distant points of vital or lesser interest. As a shield, the existence of a significant water barrier provides an island nation the option of not maintaining a large standing army in peacetime, because it can hope to create one in an emergency. Today, the maintenance of a credible standing army is essential, but its size is debatable.

If the oceans are the active medium of an island nation, then seapower is the guarantor of the use of that medium. Our approach to world politics and economics has and will continue to prescribe unfettered use of the seas. Politically speaking, we would find it difficult to maintain our internal political system if we were the only democracy left in the world. Use of the seas enables us to work with other like-minded nations. Our leadership is a function primarily of our interest to exercise an influence in the world commensurate with our size and our stake in the spread of

open societies and open economies. For an island nation to lead the free world politically requires this maritime connectivity.

We are economically connected to many nations who are most efficiently accessible by sea in today's transportation system. The oceans remain the medium over which moves 70 percent or more of our total international trade by value and 99.7 percent of our overseas export and import tonnage. We depend on a maritime capability for overseas consumers, raw materials, and energy resources which provides this Nation with a degree of wealth and a standard of living which it could not generate on its own.

Although we seek to deter conflict, in the end we will conduct our military campaigns as far from our shores as possible with the help of our allies and friends. This strategic concept typifies the inclination of an island nation to project its military power overseas by establishing outposts abroad, outposts which must be maintained by sea lines of communication. Such outposts of forward defense may be foreign bases, but in view of our ideological predispositions, these bases are ours to use only as long as the host nation allows it. These outposts can also be of a semi-permanent nature: ships on foreign stations, elements of fleets cruising off foreign shores, or sea bases in international waters. To enlist the cooperation of an ally in the conduct of our forward defense being executed in his backyard, we can rely on the inherent flexibility of naval forces to be responsive to the host country's nationalist sensitivities. When an island nation must act unilaterally to protect its interests, again naval forces would remain the central element around which military strategy is built. Arguably, the oceans are the most efficient and dependable path to and from our forward outposts and allies. Seapower, in the form of sea control and power projections creates a deterrent because it can deliver and sustain a credible warfighting capability on an adversary's soil.

Continental forces may be the forces of choice in a number of scenarios, but their relevance to any operation outside of Homeland Defense or short-range, limited operations in this hemisphere rests most credibly, and therefore most completely, upon this Nation's seapower. Further, the association of continental forces with sustained land operation juxtaposed against the demonstrated capabilities of naval expeditionary forces, underscores the increased relative value and utility of naval forces in a world where temporary projection of power ashore by forces based offshore is far more likely than sustained continental warfare. Should the bulk of our commitment to NATO be placed in continental reserve and a return to Europe be required of our land forces, then this rapid reinforcement can only be guaranteed by seapower. Air bridges can be fragile and complex military capabilities. In short, both our hedge against the worst-case scenario envisioned, as well as the most effective insurance policy against those most likely threats to our interests, depends on this island nation's seapower.

We believe that an island nation requires a dominant maritime or seapower strategy, one that is fitted to and properly viewed as a component of our overall national military strategy. The more these components compliment each other, the greater the liklihood that military means will promote the attainment of our foreign policy goals. For years, out of political necessity we were tied to a continental focus. For an island nation, this would seem to be somewhat out of character. The change that is needed is a clear acknowledgement that the manner in which we will execute our strategy will become increasingly naval in character. In those cases where naval forces do not comprise the bulk of our military response to those most likely threats to our interests, they will most certainly comprise the spearhead of our military options. We have an opportunity to align our military strategy with our strategic culture.

One of the purposes of that strategy would be to provide a vision that will aid decision makers in developing a concept of force employment. From this vision, the elements that enable force employment and subsequent commitment to action then fall into place. These elements can also be referred to as capabilities. This vision can maximize use of forces currently in being as well as serving as a buffer against the risk, induced by budgetary pressures, of not bringing on line other capabilities in development. It also reduces our sometimes slavish and always expensive pursuit of the "holy grail of technology" by simply thinking smarter about our military campaigns. History is replete with examples of nations who were reluctant to endorse the clearly appropriate strategy with its supporting capabilities and the cost of their intransigence.

On this point, the British decision at the turn of the last century to fail to invest in the capabilities or forces needed to maintain global naval supremacy can be instructive. Then, like now, the distribution of power in the regional balances of the Atlantic and Pacific was shifting. While there were other factors at play, not the

least of which was a taut budget and aversion to raising taxes, the British leadership had neglected to support her naval forces and forfeited the comparative advantages she had accrued from them. The British found themselves exceedingly dependent on the good will of new regional powers. But more importantly, if British interests were seriously challenged in more than one place at a time, the options to respond were severely limited. The implications for the U.S. are clear.

Finally, despite the size of the threat or contingency and scope of U.S. involvement, we must think our strategy through to the end as our Congressmen are appropriately challenging us to do. To address their concerns, our strategy must focus on "winning the last battle". Here the successful, sequential massing of forces and supporting logistics in space and time requires a predominantly sealift orientation that is a critical supporting task executed during the conduct of a naval campaign. We cannot hang our strategy and overseas capabilities on the tenuous availability of basing subject to the vagaries of diplomatic negotiation. If the political or economic objective is important enough to place the Nation's military forces in harm's way, then we must be prepared to sustain the effort from the sea or be willing to take the facilities in the area that we require and hold them for the duration of the operation. Again, thinking through our strategy to the end argues for a dominant maritime component within our national military strategy.

For an island nation, a dissipation of naval presence and power could be interpreted as signs of retrenchment, an act which could produce the very weakening of U.S. power which it is supposed to avert. This island nation expects its naval forces to guarantee superpower influence, power, and leadership. In closing, a maritime strategy for an island nation operationalizes an observation that "there is a lot more you can say *here* and do *there* when your forces are *there*, than you can say or do when your forces are *here*." The undeniable change that must occur within our strategy is a shift from a maritime nation with a continental strategy to that of a maritime nation with a dominate and domineering maritime strategy. For such a change to occur, support from all concerned must be commensurate with the new direction strategy execution must take.

Senator McCAIN. What major changes in total force structure?

General GRAY. If real defense spending drops no lower than those called for by President Bush, significant changes will be required within the Marine Corps' Active and Reserve forces. Considering the dynamic process of aligning capabilities and the shaping or sizing of forces based upon the proposed budget, a decrement to the Marine Corps' total structure will result.

The Marine Corps is examining a number of organizational initiatives which were compiled in a series of Warfighting Enhancement Initiatives 2 years ago. The focus for our active structure is directly related to the most likely contingencies and provides the base for transition to a sustained regional or global war by integration with our reserve structure.

This renewed effort examines the entire Marine Corps air-ground combat needs, as well as those of combat service support and the Supporting Establishment, present and future. The Corps is taking a hard look at structure, identifying core absolutes, making tough comparisons and acutely examining methods for streamlining. The result will prioritize the need for retention of structure in the Active and Reserve forces. However, the optimum structure will maintain an affordable balance by preserving capabilities while striking balances among factors such as readiness, structure, sustainability, modernization and availability (i.e., Reserves).

This examination demands a close look at the Corps' infantry division's, rifle regiments, artillery regiments, tank battalions and both reconnaissance and truck companies. Additionally, a vast reexamination of methods to consolidate individual billets within our aircraft wings, combat service support organizations and Supporting Establishment is ongoing. Consolidation and streamlining will be accomplished, but some deep vertical structure cuts in the active structure may occur, with some shifted to the Reserves.

The Marine Corps Reserve makes it possible to migrate some capabilities to the reserve structure within the context of a rationale force management process. However, no matter how thorough this effort, the Marine Corps must lose some of its structure. Thus, the result will be a reshaping of our Active forces into three leaner but capable divisions, aircraft wings and supporting units with essential depth provided by our Reserve.

PROCUREMENT PLANS AND RDT&E PRIORITIES

Senator McCAIN. One of the most critical problems we face during the next 5 years is the restructuring of our strategy and force posture to meet changing strate-

gic and financial conditions. In your personal opinion, what are the major changes we should make in our strategy and force posture if a CFE and START Treaty are signed, if the Soviet and Warsaw Pact continue to decline as threats, and if real defense spending drops to decline as threats, and if real defense spending drops to levels no higher than those called for by President Bush? What changes in procurement plans and RDT&E priorities?

General GRAY. We have made no changes in our procurement plans or RDT&E priorities. I believe that if all the things you mentioned occur, we have the proper plans and priorities to accomplish our enhanced role in sea power projection ashore. This is critical for the Marine Corps to maintain and improve these capabilities for low to mid intensity combat.

Senator MCCAIN. What changes in power projection forces?

General GRAY. Any discussion of our requirements for power projection forces must take into account an examination of our Nation's national interests, existing and anticipated threats and our national strategy. With this in mind and despite the current optimism for a better and more open relationship with the Soviet Union, we must not lose sight, especially in the present environment of uncertainty, that the United States has been and will continue to be a maritime Nation with global economic and political interests. Because of the evidence of growing nationalism and the expanding gap between rich and poor nations, many Third World developing nations vital to the interests of the United States and its trading partners are possible fertile breeding grounds for insurgencies. These insurgencies have the potential to jeopardize regional stability which could spillover and endanger access to vital economic resources. The current tension, for example, between Iran and Iraq poses a threat to the uninterrupted flow of Persian Gulf oil and the economies of the United States and its European and Pacific allies which are increasingly dependent on that oil. Regional stability becomes more critical as our Nation and allies, as well as potential adversaries, become more and more dependent on developing nations for strategic resources. If we are to have stability in these regions, maintain access to their resources, protect our citizens abroad, and deter conflict, we must maintain within our Active force structure a credible military power projection capability with the flexibility to respond to conflict across the spectrum of violence throughout the globe. To this end, we must have a balanced fleet, to include retention of a credible nuclear and ASW deterrent to the still very real Soviet threat. Additionally, Carrier Battle Groups (CVBG's) are without question the most useful and frequently employed-for-deterrence and crisis-response fleet asset. As a third leg of a balanced fleet, we must have an amphibious force which will enable our fleet commanders to respond to crises on a real-time basis, or to extend the depth of the maritime battlefield onto land through the forcible introduction of flexible, sustainable, and above all, credible landing forces. The bottom line is that we must continue to sustain our forward deployed forces while maintaining a credible, two-ocean, rapid contingency response force on a continuous basis.

Senator MCCAIN. What changes in rapid deployment capabilities?

General GRAY. In order to ensure its vital interests, on a global scale, a maritime nation like the United States must have ready naval forces, sufficient in numbers and capable of rapid deployment for power projection employment. The diversity of prospective battlefields requires forces which are mobile, versatile and able to deter aggression by their ability to respond rapidly to a wide range of crises situations. Additionally, these forces must truly be expeditionary, with organic air support, air defense, assault support, reconnaissance and intelligence capabilities and most importantly, they must be sustainable. The current day-to-day high level of readiness of the Nation's naval forces enables us to concern ourselves with the question "How quickly can we get there?" and not "Are we ready to go?" Whether by ship, strategic airlift, prepositioning, or a combination of all three, your Marines are able to rapidly deploy and respond to a crisis with the combat power and sustainability required. Furthermore, your Navy—Marine Corps Team provides the flexibility to position combat power on station, over-the-horizon if necessary, prepared for immediate crisis response. Considering the present environment of uncertainty, we must retain the vital rapid deployment capabilities our naval forces currently provide the Nation.

Senator MCCAIN. Given current trends, how quickly do you personally believe we should restructure our current strategy and force posture away from a focus on the defense of NATO to one on global power projection and deterrence?

General GRAY. Elsewhere in this record, we have maintained that the U.S. is an island nation. The geostrategic implications are evident for all who would see them. From this premise, a strong case has been presented concerning the strategic direction which our national military strategy should go. The present window of opportu-

nity to align our military strategy, as well as key elements of its execution with our strategic culture, should not be allowed to close despite the radical restructuring it may force upon some components of our Armed Forces.

Once this decision is made (and the quicker the better), an orderly reduction and restructuring of our forces can proceed. I say quicker, not to inject needless pressure on an already intense situation, but to focus *now* on how our current military structure and capabilities can be reconfigured to meet the new strategic requirements to be placed upon them. If we proceed down the slippery slope of horizontal funding cutbacks without a stratgey, unique capabilities critical to maintaining the credibility of our naval forces as the core of our global power projection and deterrent forces will be quickly lost. Unfortunately, many of these capabilities can only be regained at a later date at a higher cost. The multi-year defense plan is an adequate period of time to adjust the complimentary and supporting capabilities that reside elsewhere within DOD to meet the naval forces proportionally larger burden of executing our national military strategy.

The process of examining how our service components can best compliment each other, assuming that current trends continue, must be deliberate and sober. Nonetheless, a shift to a dominant maritime component within our national military strategy from the existing hierarchical arrangement that presently saddles this maritime nation with a continental strategy is clearly appropriate and needed. This shift must be accepted both within our ranks as well as supported by those elected officials charged with deploying and outfitting us. Our argument makes a great deal of sense, while others simply fall short of the mark. Such a shift will signal U.S. intent to remain a superpower, capable of global power projection and deterrence.

If we did not have to contend with the Soviets, the assumption of a more predominant maritime orientation, and all funding decisions which that assumption implies, could proceed immediately. However, to avoid creating a "hollow army" or one that does not merit serious consideration as a rapid reinforcement capability for continental war in Europe, we must move cautiously. We must tie our drawdown and subsequent reconfiguration of land forces in CONUS to verifiable retrenchment by the Soviets. It would be foolhardy to race ahead of the dissolution of the Warsaw Pact by impatiently leapfrogging over any treaty provisions or timetables that might serve our long term objectives. It would also be shortsighted to fail to take into account how far and slow Gorbachev must move if he is to absorb the dismantling of the Red Army without causing himself and his programs grave damage. Regretfully, this is a long term brake on any "quick" restructure of our force posture.

Acceptance of a preeminent maritime component to our military strategy would lead to some fundamental changes. Such a strategy would require a commitment to stable naval ship building programs, decisions on key naval aviation questions, increasing DOD support of sea-basing concepts, and a realization that this Nation can neither afford nor does it need two highly capable forces in readiness when one already exists. This and more would transpire concurrently with a plan providing for a credible but affordable CONUS based hedge against a possibly revanchist Soviet Union despite the increasing probability against its use.

Naval campaigns would once again become the workhorse of our global power projection strategy. But it is important to remember that naval power cannot reach its full potential for deterrence or conflict termination without a strong, flexible, and balanced fleet. Naval power projection conducted only by CVBGs or BBBGs is analogous to the extension of a powerful arm, but one wherein only a thumb is jammed in a adversary's eye or thick forefinger pounded forcefully into a foe's chest. When viewed as the hand at the end of this powerful arm, Marine forces provide a degree of flexibility ashore that enables a naval campaign to succeed. This hand can then become quite discriminate; it can seize territory and hold it for follow on forces. It can also be viewed as an open hand, extended to provide much needed political reinforcement. Finally, it can also form a fist and deliver a knockout punch against the threat. In much the same way that primates are distinguished from other lesser advanced species because of the survival advantages accrued from use of their opposable thumbs and resultant manual dexterity that allows them to be in control of their world; so too are balanced naval forces placed in a unique position of advantage vis a vis other components of our military strategy. For an island nation, an appreciation of this advantage, especially one whose core capabilities are available today, is best acknowledged by making its maritime component the centerpiece of its national military strategy.

CONTINGENCIES AND FORCE STRUCTURE

Senator McCain. If current trends continue, what are the primary contingencies aside from the Soviet and Warsaw Pact threat, that you personally feel we should structure our forces for during fiscal year 1990–2000?

General Gray. Although there is much uncertainty with regard to where and when the next crisis or requirement for a contingency operation will occur, what is clear are certain facts that shape the outline of these crises or small wars. First, history has shown that our interests and the forces most likely to place our interests at risk coincide in four traditional areas or "hubs of instability"—the Western Pacific, Indian Ocean/Persian Gulf, Caribbean, and Mediterranean. Second, nationalism as a source of conflict is still with us. Third, ethnic dissatisfaction, as a subset of nationalism, has not abated and for those who are "politically out of power", terrorism remains an expedient, but nonetheless deplorable, method of leverage. Fourth, in many regions of the world, poverty has become institutionalized with little hope of relief. Fifth, by the end of this century, nearly 80 percent of the world's population will live in the lesser developed countries. This has the potential to create enormous societal pressures reflective of masses of people who will not have the chances or opportunities we have come to expect in life. Sixth, despite the death of Khomeini, it is not plausible to believe that we have seen the last of the Western directed violence spawned by social disaffection and frustration by the clerics and political leaders of Middle East countries. Finally, it is highly probable that elemental competition for limited resources such as food, housing, and especially water will continue to reoccur as well as proliferate, making such locales breeding grounds of discontent. The aforementioned are but a short list of the issues that will shape the who, what, when, and where of the next crisis upon which we may focus because inevitably these issues will intersect U.S. national interests. Perhaps even to the point of requiring a military response.

It is instructive to note that even in the space age, an appreciation of the value of the seas is fundamental to further refinement of the nature of crises and small wars in which we may find ourselves involved. In many cases where the propensity for instability runs high, the value of the sea is so great that it is a source of contention. This is not surprising because 39 of the top 40 countries that are dependent upon fish as a primary source of protein in their diet lie in the Third World. Twenty seven individual cases of maritime boundary disputes presently exist. Besides sources of conflict directly attributable to dependence on the sea, reliance on the sea can provide vulnerabilities upon which we can capitalize if need be. Prevalent throughout the underdeveloped and potentially unstable states are transportation systems that depend upon the load-bearing advantages of shipping to move a large fraction of their country's trade goods. Pressure can be applied here. Additionally, within 150 miles of the sea lie 75 percent of the politically significant urban areas (i.e., capitals and/or key ports). Many of these same urban areas serve as the only or the key source of centralized command and control over the country's military forces.

To project power into these regions of the world, such respected studies as the Discriminate Deterrence series of reports and the recent Secretary of Defense's Annual Report to the President and Congress call for forces that are flexible, versatile, and highly mobile as well as possessing the combat power to prevail and the sustainability to persevere. This is in part because the military forces in many of these areas are large, well equipped, and in some cases, combat-tested.

There is another factor to be considered in how we structure forces that would be employed in these crises or small wars. This erosive factor can effect our confidence in our response.

Distance erodes power projection capability. It is a complex relationship not only because of the presence or absence of bases, allies, and unencumbered routes of transit, but also because of three geographical contexts in which the military operation occurs. First, the power projection capability of the U.S. decreases the farther it is committed from CONUS. SWA is the most demanding and difficult case. Second, our power projection capability decreases the farther it proceeds inland from the littoral areas. The best capability for quick and decisive operations lies near the shoreline because of the depth of cover supporting forces can provide. The third context has to do with sustainability. If great distances lie between the operation and its primary base of logistics support, the outcome of the operation is in jeopardy. Only power projection forces that arrive with inherent sustainability can avoid this risk.

This explains why the U.S. appears and feels less confident in its ability to influence situations deep in the interior of continents. The prospects of success do not

outweigh the risks involved. We believe that whatever U.S. power projection operations likely to be conducted in an era of decreasing overseas base, in all probability, will be conducted by naval forces near the coastline of states around the world. To consider other scenarios would place the chance for a quick and decisive operation at considerable risk. We do not envision many Howard or Palmeros Air Force bases in the areas of tomorrow's primary contingencies.

While naval forces are on scene daily in each of the traditional hubs of instability, they are admittedly an incomplete bridge between CONUS and the demands placed upon power projection in the extreme case that SWA constitutes. Yet naval forces are often the only credible statement that can be made or will be appreciated in that remote region of the world. Second, naval forces are skilled at linking the land campaign to the naval campaign so as to avoid the pitfalls inherent in overambitious operations ashore. Finally, only naval forces arrive on scene with undeniable and unequalled sustainability, so crucial to successful power projection.

The point here is that those conditions which can most readily spark instabilities threatening to our interests and the composition of the forces most likely employed to provide a stabilizing influence, possess a common denominator; namely, a distinctively strong maritime character that encompasses both the threat and our response.

Senator McCain. None of the testimony this committee has heard to date describes the extent to which the fiscal year 1991 budget adequately funds the forces we need, or provides a detailed picture of the risks inherent in this level of funding and the current FYDP. Could you provide a detailed statement of your assessment of the adequacy of this funding and the resulting military risks?

General Gray. Our fiscal year 1991 budget request is adequate. We have revisited our fiscal year 1991 budget no less than three times during the last 14 months through a series of budget reviews at the Marine Corps, Department of the Navy, and Office of the Secretary of Defense levels. These budget reviews help ensure that our most critical requirements remain adequately supported.

Senator McCain. How badly has the future ability of the Marine Corps to operate in its expeditionary role been affected by the cancellation of the V-22? What types of operations would the Marine Corps be unable to conduct or conduct with substantially higher casualties without the V-22?

General Gray. The Marine Corps will continue in its role as the Nation's expeditionary force in readiness to meet worldwide commitments, but we will have to change the methods by which we accomplish those missions. We will have to take another look at how to effectively employ maneuver warfare concepts with less capable medium assault aircraft. The Marine Corps has been planning, organizing, and equipping for maneuver warfare, and the V-22 was one of the key elements of that process. The current fleet of helicopters does not offer capabilities comparable to the V-22 in terms of speed, range, payload, or survivability.

This means that we will be constrained to operations which are more consistent with attrition warfare. Rather than having the option of avoiding major enemy force concentrations, we will have to encounter them directly. We will have limited capability to conduct true over-the-horizon operations. Amphibious ships will be forced to steam closer to threat weapons systems. In effect, we will limit the flexibility of the other elements of the assault force.

In response to the second part of the question, I think that all of our helicopterborne operations will involve more attrition than they would with the V-22. The V-22 was designed with survivability features that are lacking in today's helicopters. Those features include increased speed, reduced noise and infrared signatures, and increased maneuverability as well as ballistic tolerance, subsystem redundancy, and crashworthiness. Studies have shown that the V-22 is several times more survivable than helicopters in any given situation.

I can think of no missions that we would be unable to conduct without the V-22, but our victories will come at a higher price than we need to pay.

Senator McCain. How does the Marine Corps now plan to satisfy its medium lift assault requirement and how well will currently funded plans meet its requirements?

General Gray. The Marine Corps is studying all reasonable alternatives to satisfy its medium lift shortfall. By "reasonable alternatives," I mean those that come closest to meeting our operational requirements while still fitting within our current and planned force structure. We do not plan to make any firm decisions with respect to those alternatives until we have the benefit of the results from the V-22 Cost and Operational Effectiveness Analysis.

The fiscal year 1991 request for $51 million for the Medium Lift Replacement (MLR) is sufficient to begin the process. Funding requirements for future years will be determined when an alternative is selected.

Senator McCain. Will the Marine Corps have adequate capability to project amphibious forces from over the horizon under the current DOD procurement program?

General Gray. The Marine Corps can project forces from over-the-horizon today. However, with conventional helicopters and assault amphibious vehicles, we cannot come as far, as fast, or as survivably from over the horizon as will be needed to respond to the crises or face the threats of the future. Present technology simply enables an adversary to see farther, make decisions faster, respond quicker, and if necessary, shoot more accurately at greater ranges. We require a capability which can be 1000 miles at sea one night and into the objective area the next morning if we are to outthink and outmaneuver opponents in the future.

We employ LCAC and our current fleet of helicopters during operations and training exercises to routinely initiate assaults from beyond the visible horizon, at night, under adverse weather conditions and with minimal electronic emissions. To answer the challenges of tomorrow's battlefield, we must develop and procure replacements for our current medium lift aircraft and our assault amphibious vehicle.

Senator McCain. Does the Marine Corps feel the current profile for production of amphibious shipping is adequate?

General Gray. Given the constrained budget situation in the Department of Defense since the mid-1980s, the amphibious shipbuilding program as it exists in POM-1990 is adequate. The Department has understood and supported the requirements for development of a balanced fleet, and consequently the amphibious shipbuilding program to date has been adequately protected. The current POM-1992 development process will be of even greater significance in determining the shape of U.S. military forces in general, and amphibious shipbuilding in particular, through the year 2000.

Our greatest concern is that there be sufficient amphibious shipping to sustain our forward deployed forces while maintaining a credible, two-ocean, contingency response capability through the block obsolescence years (fiscal years 1996-2008) when over 80 percent of today's amphibious ships are scheduled for retirement.

REPROGRAMMING

Senator McCain. What are the Marine Corps views on the effect of sequestration and the effort to reprogram money to offset its impact?

General Gray. Absorption of the $85.7 million in fiscal year 1990 will require demanding personnel actions which would have major impacts on the quality and readiness of our corps. We have already absorbed $22.4 million in unfunded increases in entitlements authorized by Congress for fiscal year 1990. We did this through a variety of actions, including a voluntary early release program currently underway. Further cost saving measures will incur a degradation in readiness and increase personnel turbulence. Actions likely to become necessary if we are forced to absorb $85.7 million include the following:

—Delay 582 NROTC/PLC commissionings

—Reduce officer/enlisted accessions by 6,459

—Involuntary early release of 6,153 from fiscal year 1990/4,129 from fiscal year 1991

—Reduce SRB program by 2,097 new payments

—Cancel 6,946 PCS moves

Denial of reprogramming for the Marine Corps' $85.7 million share of sequestration will eliminate the progress we have made in our manpower programs. Complete disruption of proper force management policies would result. Breaking faith with our marines, and subsequent negative perceptions, will have the unintended effect of driving even more marines from our ranks. Our commitments will not be reduced with our end strength. Fewer marines will be forced to bear a bigger burden. We urge your continued support in approving the required reprogramming.

Senator McCain. The Light Armored Vehicle (LAV) proved very successful in Panama. What future variations of the LAV do you envision for the Marine Corps? What are the corps views on its future mix of armor/anti-armor systems and the role of the main battle tank? Does the corps have a high priority for additional main battle tanks?

General Gray. The Marine Corps is pursuing, at this time, three additional LAV variants; LAV-105, LAV-Air Defense (LAV-AD), and LAV-Engineer (LAV-E). The LAV-105 will have like mobility and provide large caliber, direct fire support

(2000m) to the LAI/LAV Battalions with a 105mm gun that is effective against lightly armored vehicles, fortified emplacements, bunkers, and personnel concentrations. The LAV-AD will provide a highly mobile, shoot on-the-move air defense capability for LAV equipped forces and other rapid maneuver units of the Marine Air-Ground Task Force (MAGTF). The LAV-AD will incorporate within the MAGTF, an integrated ground based, mobile air defense system capable of countering enemy air-to-surface threat systems, both rotary and fixed wing. The LAV-E will be used to breach natural and man-made obstacles, lay mines, install obstacles, and dig hull defilade positions.

Tanks remain a key ingredient of the combined arms effort of the MAGTF. The Marine Tank Battalion is a basic unit of combat power organized to conduct mobile ground combat through fire and maneuver. The role of the Marine Corps' main battle tank is to close with and destroy the enemy utilizing armor protected firepower, mobility and shock effect while in support of the Ground Combat Element of the MAGTF. Although tanks are highly effective against other tanks, their primary role in the Marine Corps is to function as a supporting arm and not to focus on defeating enemy armor. The MAGTF has adopted a maneuver style of warfare that enables it to win without armor parity. Enemy armor is defeated through a combined arms effort ranging from tactical fixed wing aviation through employment of dedicated heavy, medium, and light antiarmor weapons systems. Currently, we are pursuing development of more lethal antiarmor systems, i.e., Short Range Anti-Armor weapon (SRAW) and Advanced Antitank Weapons System-Medium (AAWS-M), for the Marine Expeditionary Forces.

The Marine Corps' focus on low-to-mid intensity conflict over the past several years and fiscal realities has led us to significant changes in our procurement plans. The Marine Corps has concentrated on those capabilities which will best keep us responsive to our Nations' future requirements. This philosophy translates to the procurement of those weapon systems which can get to the fight quickly and influence the battle. Consequently, heavier and less-deployable systems will have a lesser priority. This realignment of our priorities and the impact of reduced funding levels are what prompted us to terminate the M1A1 procurement at the end of fiscal year 1990. The force structure decisions associated with the Marine Corps' reduced tank procurement are pending. Once the force structure decisions are made, the acquisition objective (the requirement) will be adjusted to reflect the Marine Corps' actual equipment need.

Questions Submitted by Senator Trent Lott

LHX PROGRAM

Senator Lott. It appears that the out year procurement estimates for LHX exceeds what would be the normal Army aviation budget. If such is the case, it seems unlikely that the Army of 1991 would commit to such an expenditure. Therefore, the number of LHX aircraft currently projected could go down and consequently the price would naturally exceed $7.5 million a copy. Does that make LHX worth it when compared to an existing or improved Apache?

General Vuono. Yes sir. The Light Helicopter (LH) is worth the investment. As I have said before, the LH solves the most critical deficiency in Army aviation. That is seeing the battlefield and being able to conduct armed reconnaissance at night and in adverse weather. The LH will replace aging AH-1, OH-58 and OH-6 aircraft and complement, not replace, the AH-64. The LH will perform the armed reconnaissance role in light and heavy divisions, and attack missions in light divisions, with an inherent built-in air-to-air capability.

The AH-64 was designed for the anti-armor role in heavy divisions and not for the reconnaissance mission. Specifically, the AH-64 relies on its stand-off target engagement capability to do its anti-armor attack mission. It is too large, lacks the necessary mission equipment, and is too costly to use in the close-in environment in which the LH must operate to be effective. The LH also provides the Army with a system capable of contingency combat roles not suitable for the AH-64 Apache.

Even if quantities are reduced, we will continue to require that competing LH industry teams pursue performance/weight/cost tradeoffs to achieve the best aircraft system to meet an average unit flyaway cost of $7.5 million (fiscal year 1988 $), as stipulated in the LH OSD Milestone I Acquisition Decision Memorandum. It must be recognized that LH will be procured at economic production rates throughout the acquisition cycle. Subsequent to source selection, future budgetary documentation

will be modified, if necessary, to reflect minor adjustments for the cost associated with the winning LH design.

In addition, because of its significantly better supportability, that is maintainability and reliability, the LH will greatly reduce the maintenance burden and be much less costly to operate as compared to the AH-64.

APACHE

Senator LOTT. Even with the budget cutbacks, the Air Force is continuing to build 150 F-16s per year to replace its Vietnam era F-4s while developing the new ATF. The Army on the other hand is terminating Apache production with more than half its attack fleet still Vietnam era Cobras that are far less survivable and less lethal than the Apache. Why can't the Army afford to do what the Air Force is doing?

General VUONO. The Army cannot afford to do all the things it needs to do within the expected budgets of the next several years. Therefore, we have emphasized long term solutions, in this case the Light Helicopter, and have not been able to fund solutions like the Armed OH-58D as the near term replacement for many of our older Cobras. We had never planned on replacing all Cobras with the AH-64 Apache, only those in armor/mechanized divisions and at corps level. The light divisions, both Active and Reserve component, were not programmed to receive the AH-64 and will retain their AH-1 Cobra attack helicopters until the LH is fielded, beginning in 1997. Given planned force structure reductions in both Active and Reserve components over the next several years, the total buy of 807 AH-64 helicopters will meet our requirements for armored/mechanized divisions and corps attack helicopter battalions. In continuing to modernize the Total Army in this environment of reduced resources, we have conducted substantial risk analyses and made tough choices to achieve an acceptable security posture. The planned procurement of AH-64s is adequate for our needs. We solicit your support of the Light Helicopter Program so that we can complete our aviation modernization program for both Active and Reserve component units as quickly as possible.

Senator LOTT. The Cobra is not a night-fighter. The AH-64 dramatically demonstrated in Panama that "the night belongs to the Apache." Please explain why the Army regards it as acceptable to have more than half its attack helicopters capable only of fighting during daylight and fair weather.

General VUONO. The Army does not consider it acceptable to have a large number of day only, Vietnam era attack helicopters in its fleet. That is why we have a modernization program to replace them with day/night/adverse weather helicopters. The AH-64, which did perform superbly in Panama, will replace day only AH-1s in armored/mechanized divisions and corps attack helicopter battalions. The 807 AH-64s programmed are adequate for this, given projected force structure reductions. The Armed OH-58D, which has performed superbly in the Persian Gulf, is a near term replacement for AH-1s in the 82nd Airborne Division attack helicopter battalion and cavalry squadron as well as the cavalry squadron in the XVIII Airborne Corps and selected USAREUR units. The remainder of the light forces and air cavalry units will replace their AH-1s with the new Light Helicopter, beginning in fiscal year 1997. Adding a night capability to existing Cobras is not cost effective, given the age of the Cobra fleet, its projected retirement schedule and the availability of the Armed OH-58D in the near term. In continuing to modernize the Total Army in this environment of reduced resources, we have conducted substantial risk analyses and made tough choices to achieve an acceptable security posture. The planned procurement of AH-64s is adequate for our needs. We solicit your support of the Light Helicopter Program so that we can complete our aviation modernization program for both Active and Reserve component units as quickly as possible.

M1 TANK

Senator LOTT. Last year, the Army was saying that the M1A2 would provide a 50 percent increase in capability over the M1A1 at a cost increase of only 20 percent. If that was such a good idea last year, why isn't it an even better idea now when we should be looking for ways to produce improved existing systems instead of beginning costly new programs we can't afford?

General VUONO. The Army's budget constraints as well as the changing world situation caused us to re-evaluate our weapons procurement strategy. Although the Soviet Union will continue to modernize over the long term, revised estimates indicate this modernization may take longer and be accompanied by additional force reductions. The current world situation would indicate that we are in a period of reduced Soviet threat for the next several years. Given the reality of this reduced threat we have assessed our current and future tank needs, and since our current

tank with improved ammunition will be a viable answer out to the year 2000, we have decided to concentrate on the future rather than produce a tank sufficient only for the mid-term. We believe this strategy will avoid a severe overmatch by the Future Soviet Tank III at the turn of the century. Soviet capabilities in the long run will not change, only the rate at which they modernize. Therefore, we can only slow our force modernization and not accept the risk of arriving at the year 2000 substantially overmatched in lethality and survivability. We plan to proceed with development and limited production of the M1A2 tank which will provide the Army with an enhanced technology production baseline and the alternative of continuing or restarting M1A2 production at any time during the 1990s. Plans for the U.S. Army's force reductions will reduce our quantity requirements for larger numbers of tanks, particularly those of today's technology. As a result, we have decided to focus on development of a future tank (Block III) sufficient to defeat the most capable threat tank, the FST-3, or any other tank threat of the future.

M1A2

Senator LOTT. Last year, the Army's official position was that the M1A2 was needed to counter the Soviet FST-2 which was in production and that the so-called "Block III" tank was needed in 1997 to counter the FST-3 that would appear around 1995. What happened to the FST-2?

General VUONO. The FST-2 is still being developed. Estimates indicate production of the FST-2 has slipped to the mid 1990s. The Soviets will continue to modernize, but slower and over a longer period. They will continue to develop their technology even though their ability to project their capabilities is declining. Indications are that we are moving into a period of reduced Soviet threat and we can take a calculated risk in the midterm. With reduced funding to support Army modernization, we have to make hard choices and we choose to concentrate on the far term modernization to insure we have a world class tank by the end of the 1990s, when we are much less confident in threat projection and when Soviet modernization efforts will begin to pay off. Soviets will continue to advance their technology and develop and field a FST-3, about the year 2000. We can expect Soviet armor and anti-armor technologies and capabilities to be well advanced by then. Shifting the U.S. focus to support a Block III tank to overmatch the Soviet FST-3 allows us to get inside the Soviets planning and fielding cycle.

TANK THREAT

Senator LOTT. The Army plans to terminate M1 production after fiscal year 1991 and to begin fielding a completely new tank somewhere around the turn of the century. This seems to suggest that throughout the 1990s, the Army regards the threat as non-existent, and that around the turn of the century the threat will re-emerge so severe that it is impossible to upgrade the M1 to handle it. Where does such a threat assessment come from?

General VUONO. The Army acknowledges that a changing world situation demands revised estimates of required modernization, but it is premature to assess the threat as being non-existent throughout the 1990s. Threat intentions and modernization rates may be changing, but capabilities remain significant. We believe that the Army can accept some near to mid term risk but still retain a viable capability against the most capable threat, the Soviet Union. After the 1993 delivery of the last M1A1/M1A2 tanks the Army plans to procure, we will have over 7,700 M1 series main battle tanks, to include 2,200 with depleted uranium armor. These tanks, coupled with selective subsystem enhancements (e.g. Armament Enhancement Initiative (AEI) ammo fired by the M1A1 or M1A2), and other members of the combined arms team (e.g. Smart Munitions, Apache Longbow and LOSAT) will be capable of defeating the threat until the turn of the century.

The reality of budget constraints and slowing of potential threat technology will allow the Army to focus its limited funding on leap-ahead modernization for a late 1990s fielding. The M1 Abrams tank will have served long and well, but by the year 1997–1998 the operational requirements for the tank will have exceeded the practical limits of its evolution. The threat has not diminished, rather it can be contained with acknowledged risks.

[Whereupon, at 12:20 p.m., the hearing was adjourned.]

DEPARTMENT OF DEFENSE AUTHORIZATION FOR APPROPRIATIONS FOR FISCAL YEAR 1991

THURSDAY, MARCH 1, 1990

U.S. SENATE,
COMMITTEE ON ARMED SERVICES,
Washington, DC.

FISCAL YEAR 1991 BUDGET, THE FIVE YEAR DEFENSE PLAN AND RECOMMENDATIONS TO IMPROVE THE EFFICIENCY OF DEFENSE DEPARTMENT OPERATIONS

The committee met, pursuant to notice, at 10:05 a.m., in room SR-192, Dirksen Senate Office Building, Senator Sam Nunn (chairman) presiding.

Committee members present: Senators Nunn, Bingaman, Wirth, Shelby, Warner, Thurmond, McCain and Lott.

Committee staff members present: Arnold L. Punaro, staff director; Andrew S. Effron, general counsel; Marie Fabrizio Dickinson, assistant chief clerk; and Daniel G. Sakura, research assistant.

Professional staff members present: Robert G. Bell, John J. Hamre, William E. Hoehn, Jr., David S. Lyles, Michael J. McCord, and William H. Smith.

Minority staff members present: Patrick A. Tucker, minority staff director and counsel; Ronald P. Kelly, George W. Lauffer, John E. Mansfield, Durwood W. Ringo, Jr., Mark B. Robinson, and Ann Elise Sauer, professional staff members.

Staff assistants present: Melissa Ann Ramsey and Debra A. Rice.

Committee members' assistants present: Andy Johnson, assistant to Senator Exon; Kenneth N. Luongo, assistant to Senator Levin; William J. Lynn, assistant to Senator Kennedy; John Gerhart, assistant to Senator Bingaman; Charles C. Smith, assistant to Senator Dixon; Milton D. Beach, assistant to Senator Glenn; Leon S. Fuerth, assistant to Senator Gore; Jefferson B. Seabright, assistant to Senator Wirth; Terrence M. Lynch, assistant to Senator Shelby; Melvin G. Dubee, assistant to Senator Byrd; James M. Bodner, assistant to Senator Cohen; Anthony H. Cordesman, assistant to Senator McCain; Lee W. Whittaker, assistant to Senator Wallop; Robert M. Soofer, assistant to Senator Gorton; Charles G. Pearcy, assistant to Senator Lott; and Eric H. Thoemmes, assistant to Senator Coats.

OPENING STATEMENT OF SENATOR SAM NUNN, CHAIRMAN

Chairman NUNN. This morning the Armed Services Committee meets to receive testimony from Hon. Charles A. Bowsher, the

Comptroller General of the General Accounting Office. He is accompanied by Mr. Frank C. Conahan, who is the assistant Comptroller General in charge of the National Security and International Affairs Division at GAO.

This is the fourth consecutive year that the Armed Services Committee has invited Mr. Bowsher to testify on the General Accounting Office assessment of the administration's budget submission.

Last year, Mr. Bowsher, you testified that the Defense Department's 5-year plan was fiscally unrealistic, and we agree with that completely. This year DOD has not yet completed a revised 5-year defense program, and there are still some great uncertainties, or blanks as I call them, in the overall 5-year defense plan. So, we have asked you to give us your assessment on the budget submitted to Congress so far.

In addition to reviewing the Defense Department fiscal year 1991 5-year defense plan, we have asked Mr. Bowsher to address several other questions in his testimony today. First, what is the status of the overall Federal budget situation today, particularly our prospects for balancing the budget over the next several years as required by the Gramm-Rudman amendment.

Second we asked him to present his observations on programs or activities in the Defense Department that are not being managed as efficiently as possible and any recommendations for improvement. And finally, of course, we asked Mr. Bowsher to comment on DOD's defense management report in particular the savings which DOD is projecting on the basis of this report which comprise a very substantial part of their projected budget reduction.

Mr. Bowsher, let me thank you for the dedicated effort of your people and the GAO for the assistance we receive throughout the year. We especially appreciate the assistance you have provided this committee by detailing members of your staff to help us with acute matters of great interest such as acquisition and also nominations when we have had an unusual load. Your people have been of enormous help to us and reflect the true professionalism of your organization.

We are delighted to have you here this morning, and before I ask you to give your report, let me turn to Senator Warner.

Senator WARNER. Thank you, Mr. Chairman. I wish to associate myself with your remarks about Mr. Bowsher and indeed his principal deputy, Mr. Conahan. You have brought a measure of integrity to add on the already credible organization that was created by your predecessors.

But as the Chairman read off the various things that you would address today, I wonder if you might add one more, if we take Social Security off budget, how does all of this work out?

Chairman NUNN. Thank you, Senator Warner.

Let me just make one administrative announcement or comment here. We have gotten word in just the last few minutes that there is a Democratic caucus at 10:30 on the Clean Air bill, and I assume there is a Republican caucus also at 10:30. There are a lot of our committee members that are going to want to be there and there are a lot that are going to want to be here.

I would suggest that we go for about 30 or 40 minutes this morning—is that approximately how long your presentation would take?

Mr. BOWSHER. Yes.

Chairman NUNN. So, let us go through your initial presentation with the concurrence of the committee, then take a break until 11:30, if you can do that.

Mr. BOWSHER. Sure.

Chairman NUNN. Well, let us say 11:15, then. We usually discuss things more thoroughly. [Laughter.]

Mr. BOWSHER. You have got the votes, though.

Chairman NUNN. We will take a break until 11:15 approximately, but if you could give us a little leeway, we may be a little later than that.

So, we will go through your initial statement and then come back here, because I know there are a lot of members that are going to want to be here to ask questions, and then we will go as long as need be then to complete the questioning. Is that all right with you? Can you meet that?

Mr. BOWSHER. Yes, that is fine, Mr. Chairman.

Chairman NUNN. Thank you.

Okay, we are delighted to have you. Any other opening comments, Senator Bingaman, Senator Shelby?

Senator BINGAMAN. None, Mr. Chairman.

Chairman NUNN. Senator Thurmond has asked that his prepared statement be made a part of the record.

[The prepared statement of Senator Thurmond follows:]

PREPARED STATEMENT OF SENATOR STROM THURMOND

Thank you Mr. Chairman: I join you in welcoming the Comptroller General, Mr. Bowsher. His reports to this committee are always eye openers and the basis for a great deal of discussion.

Mr. Bowsher, I want to commend you for your dedication and responsiveness to this committee and the Congress. The reports you and your staff prepare are essential to good government. They have in many cases resulted in substantial savings of our taxpayer's dollars and contributed to making the equipment we put in the hands of our soldiers more effective and safer.

Although your work stirs up controversy, I believe it is the type of work that must be done if we want to do business in an efficient manner.

On behalf of our citizens, I thank you for your loyalty and devotion to improving the manner in which our Government conducts its business.

Thank you Mr. Chairman.

Chairman NUNN. We are also delighted to have Congressman Andy Ireland here. We worked with him very carefully over the years, and he has taken a real lead in trying to get some long-range planning into the Department of Defense so, Andy, we are delighted to have you.

Chuck, go ahead.

STATEMENT OF HON. CHARLES A. BOWSHER, COMPTROLLER GENERAL, U.S. GENERAL ACCOUNTING OFFICE, WASHINGTON, D.C., ACCOMPANIED BY FRANK CONAHAN, ASSISTANT COMPTROLLER GENERAL, GENERAL ACCOUNTING OFFICE, WASHINGTON, D.C.

Mr. BOWSHER. Okay, thank you very much, Mr. Chairman and members of the committee.

I might be able to summarize this a little faster than just reading it, so what I would like to do is just——

Chairman NUNN. We are not in any hurry. We will take whatever time you need. So, if you need 30 or 45 minutes, we will go that long.

Mr. BOWSHER. All right.

Well, the first area that we want to cover today is the overall budget deficit and the issue of the interest cost, which is I think becoming a driving factor in our overall budget as well as in the defense budget.

I think if you look at the chart, next to the last chart on my presentation—we also have it up here—I can make the major points very quickly. And that is that on a unified basis in the summer of 1985, we had a $212 billion deficit. The reason that the Congress passed Gramm-Rudman-Hollings is that they were concerned that the budget deficits had started to reach $200 billion and were staying at that level.

Since then, we have reduced the unified deficit down to $152 billion in 1989, and the deficit has pretty much plateaued there for the last 2 or 3 years.

I think the most significant thing is that if you go up the chart to the Federal fund deficit level—if you look out on the right-hand side, that is the figure of $303 billion—you will see that working back across the years that we have made very little progress on the budget deficit if you exclude trust fund surpluses.

In other words, if you work back across the line, you will see that we were at $267 billion in 1985, and in 1989 we are at $275 billion for the fiscal year just completed. The best estimate is that we will be at $270 billion for 1990 and $273 billion for 1991.

Now, what is making the deficit come down as far as on a unified basis is the Social Security and other trust fund surpluses. What this chart does not show you exactly is how the Social Security trust fund surplus has built up over the years.

In other words, we had a $9 billion surplus in 1985, and a $52 billion surplus as of 1989. We will have a $74 billion surplus in 1991, $98 billion surplus in 1993 and $128 billion surplus in 1995. The use of these surplusses is what brings down the deficit.

The other trust fund surpluses are running right around $60 billion. They are not going up very dramatically, but they are counted on the unifying basis.

Now, if you look at the Gramm-Rudman plan, which is the administration's plan, you get down to a balanced budget, on a unified basis, in 1993.

To give you the impact of these numbers on the debt, if the Gramm-Rudman target can be achieved on a unified basis, we still add about $1 trillion to the debt. In other words, we go from $3 trillion to $4 trillion by the mid-nineties, and if the CBO numbers which we have used in the chart are correct, we will add $1.5 trillion. That would get us up to $4.5 trillion of debt.

What this does to the interest costs is a story that goes something like this. This past year, fiscal year 1989, when you look at the Treasury's final report, interest costs have now passed up Social Security as the number two item in the budget. It is at $240 billion. That is the interest on what we have to pay to the public and also to the trust funds.

If we were to hit the $4.5 trillion that the CBO numbers would indicate, the interest cost in the mid-nineties is estimated by CBO to be $335 billion which would put it past defense if defense was to stay somewhat plateaued.

So, the point I am trying to make today is just how costly interest is becoming in our budget.

Chairman NUNN. What interest rate assumption are you using to compute that?

Mr. BOWSHER. We are using the interest rate assumption that the CBO used—which is slightly higher than what the administration did. We did not use any of our own numbers. But I think that is a very good point, Mr. Chairman. If you have higher interest rates, you would have a much higher interest cost in the budget.

In answer to Senator Warner's question as to whether it would be better to take Social Security off budget, I think it would be better to take Social Security off budget and focus on the general government operations deficit, and maybe revise the targets if you are going to keep the Gramm-Rudman process.

I think what we are doing now is masking the deficit problem, and I think the problem is fairly substantial.

Chairman NUNN. How do you feel about going ahead and sending back the surpluses in the trust fund, the Social Security trust fund, and going on a pay-as-you-go basis instead of pretending we are building up surpluses when we are not?

Mr. BOWSHER. We testified before the Senate Finance Committee and what we said was that if you could come up with a multi-year plan, on both the revenue side and the expenditure side, where you could make up the loss of revenue with the rest of the budget, then we would see some merit in that.

If you cannot do that, then I think you have to be careful because you are going to lose about $60 billion.

I think that in a year or two we will hit the reserve levels that we had recommended. If we are going to continue to use that money for general government operations, then I think we have a very serious situation.

Chairman NUNN. When do you hit the area that you think is a safe surplus?

Mr. BOWSHER. We said about 150 percent of reserve was needed, and our best estimate was about 1991 or 1992, or maybe 1993, depending on the economy.

Chairman NUNN. And at that stage you believe that is all the surplus we need?

Mr. BOWSHER. That is correct.

Chairman NUNN. In looking at purely from Social Security's——

Mr. BOWSHER. Yes, just from Social Security.

Chairman NUNN. How do you judge that? What is the general rule of thumb to say how much we need?

Mr. BOWSHER. The actuaries determining what is needed based on the past years, and there does not seem to be a lot of debate on this matter. In other words, when we testified before the Finance Committee, the Social Security people and people like Bob Meyers and Bob Ball thought that was a reasonable reserve requirement.

Senator WARNER. Does that translate into a year and a half?

Mr. BOWSHER. About a year and a half is right, John.

Senator WARNER. Which means that if there was not one more cent coming in, the thing could pay out for a year and a half for all the known benefit situation?

Mr. BOWSHER. That is correct. What we have now is about a year.

Senator WARNER. As of today?

Mr. BOWSHER. As of the end of this fiscal year.

Senator WARNER. Well, then, why would it take, as the Chairman said, all the way up to 1993 to get the other half year in here?

Mr. BOWSHER. Because you are building up surpluses at the rate of about $15 billion a year.

Senator WARNER. That is the rate at which it is going up?

Mr. BOWSHER. I would have to go back and check the figures on that.

Senator WARNER. It does not work in my mind quickly as I translate your figures.

Mr. BOWSHER. Yes.

Senator WARNER. In other words, if you have got a year now and you want——

Mr. BOWSHER. No, no, I am wrong here. What you have is about $50 billion in surplus. So it would take about 3 years for adding another $150 billion to the reserve.

Senator BINGAMAN. Mr. Chairman, could I ask a question?

Chairman NUNN. Certainly.

Senator BINGAMAN. Mr. Bowsher, do I understand that what you are saying is that the way we now calculate the deficit, the increase in the surplus, and the Social Security trust fund, reduces the deficit? At the same time it adds to the national debt?

Mr. BOWSHER. That is right. What it does is reduce the deficit, but you have to borrow to finance the difference. Therefore, the deficit and the debt is not in sync.

Senator BINGAMAN. So, what you are saying, the reason we have got a debt that is growing dramatically and at least a nominal deficit that is coming down or staying at a reasonably low level, is because of the way we are considering the Social Security trust funds.

Mr. BOWSHER. That is correct.

Senator BINGAMAN. Thank you.

Chairman NUNN. Another way of saying it, if I am correct is that one of the reasons to build a surplus is so that the taxpayers in that period of time, sometime around the year 2015, do not get absolutely killed in terms of having the Social Security taxes raised so high then that it would be unbearable and probably cause a lot of unemployment.

Mr. BOWSHER. That is correct. That was the reason, and I think it makes sense that the Social Security Commission did what it did in 1983.

The unfortunate thing is that we have gotten so far out of balance with the rest of the government operations that we are using the money as it arrives at the Treasury.

Chairman NUNN. But the way we are going right now, instead of having to tax Social Security that much higher, we are going to have to tax other sources if we keep Social Security separate in order to pay the Social Security fund what we owe them.

Mr. BOWSHER. That is right.

Chairman NUNN. So either way the same taxpayers are going to get killed in the future if we do not change our course.

Mr. BOWSHER. What I am really worried about is the interest cost. In other words, we are building up such a huge interest cost each year.

Chairman NUNN. What do you say to the argument of what I would call pure supply siders. For a long time I thought I was a supply sider until it got to be such an extreme term, but when they say well, do not worry about all this deficit, do not worry about the interest, we can borrow money all over the world. Money is fungible. The Japanese have got to invest here, and besides that, the deficit as a percentage of our gross national product is coming down so it is having less impact.

What do you say to that argument?

Mr. BOWSHER. Well, I think the argument against that is that we are digging such a financial hole that to pay it off with Social Security surpluses is going to take a long time and a large surplus. I just wonder whether the workers of this country are going to be willing to pay a tax for one purpose and the funds will be used for another purpose.

Also I think we have to be concerned about the overseas investors. They have a decision that they can make someday, and that is not to buy our bonds.

A lot of people have the idea that we are just printing the bonds, but the truth of the matter is that we sell those bonds before we run the printing press. You have to have somebody showing up to buy the bonds.

Chairman NUNN. Have we put ourselves in a situation fiscally that if the Japanese interest rates are heading up, which they are right now, even if our domestic economy is slowing down and the Federal Government would like to lower interest rates, they really cannot do it because we cannot then borrow the money if the Japanese are paying more interest.

Mr. BOWSHER. That is right. In other words, we are very much tied to the world capital markets and the interest rates that are prevailing in the major countries. If the Germans and the Japanese raise their interest rates, which has been the recent trend, it is very difficult for our monetary policy people to try to bring the interest rate down and remain competitive in the world market.

A good example of that was when we sold bonds for the S&L crisis. We had to send special teams to Japan and London and, I believe, to Europe to make sure that the buyers showed up to buy the bonds. I believe that is an indication of how dependent we are on them.

Senator SHELBY. Mr. Chairman?

Chairman NUNN. Senator Shelby.

Senator SHELBY. You say we are tied to the foreign investors. We are really being held hostage in a sense, and what you are talking about regarding the need to send teams to Europe and Japan, is just indicative of what things would come to as we grow into a $4 trillion debt, is that right?

Mr. BOWSHER. That is exactly right.

Senator SHELBY. And the whole budget system as we are dealing with it now, you had not used the word—I will use it—it is just a fraud on the American people, is it not?

Mr. BOWSHER. Well, I do not think it shows the real story.

Senator SHELBY. Thank you.

Thank you, Mr. Chairman.

Chairman NUNN. Okay, go ahead, Mr. Bowsher.

Mr. BOWSHER. All right.

I would like to move to my next chart to talk about the 5-year defense program. I would just like to say a few words first before I get to the chart.

The President's fiscal year 1991 budget reflects a fiscal year 1990 to 1994 defense budget projection of $1.5 trillion. This is $212 billion less than the most recent 5-year defense program (FYDP) which was prepared in 1989.

To date, DOD has decided on reductions of $74 billion from the 1989 FYDP. The $4.2 billion is fiscal year 1990 was a result of the congressional reductions. The $22.4 billion in fiscal year 1991 was the result of the DOD budget reductions, and the $22.8 billion is the impact of the 1991 reductions.

I might point out that these are relatively modest reductions and the same with the next line item, the $24.7 billion.

What I am saying is that the last two items, $46 and $47 billion, are not what I would call real solid reductions.

So what we come down to is that budget reduction decisions still need to be made for about $138 billion. What I am trying to warn the committee is that the figure is really more than $138 billion because the $22.8 billion and $24.7 billion still require quite a bit of decision making before you get the savings.

Chairman NUNN. Let me ask you this question. From the committee's point of view, do you believe that we can responsibly decide on the 1991 fiscal year defense budget, without having much more of that revealed on that chart as to where they are going over 5-years?

Mr. BOWSHER. No, I do not think you can. In other words, I believe you need the FYDP. In fact, we issued a legal opinion just yesterday that said that DOD has not complied with the legal requirements to supply the FYDP to you. I think you need more details on some of these reduction areas before you will be able to wrap up the budget.

Chairman NUNN. Otherwise we may be funding things this year that contradict what we have to do inevitably to get to this number over a period of time.

Mr. BOWSHER. Very much so.

One of the problems we will have as we start to bring some of the troops out of Europe and close some of the bases is that people will be reminding everybody, as they did last year on some of the base closures in the States, that we have just built buildings and hospitals and clubs. That is one of the unfortunate situations.

We did not have a good plan for the buildup in the early eighties for some of the money that we spent. I think that we have got to have a good plan now or we could fall into a trap where we will be spending money that people will later wonder why it was spent.

Chairman NUNN. It is very hard to justify spending any more military construction money right now in Europe, is it not, under these conditions?

Mr. BOWSHER. I would be very careful spending MILCON money in Europe. That is right.

Senator WARNER. Well, in fairness, Mr. Bowsher, no human being could have predicted the turn of events that we have seen in the last 6 or 8 months.

Chairman NUNN. That is correct.

Senator WARNER. And I think sometimes that we challenge the Secretary of Defense and his uniformed advisors to produce a lot of these details, we are asking them in a way to look into a crystal ball which is most uncertain.

So it is not as if they are being negligent or uncooperative. It is just a tough job to look into the future.

Mr. BOWSHER. It is a tough job, and it is especially tough when world events are moving so fast.

Chairman NUNN. May I add to that that the number I am talking about is their number that they say they are going to cut. And what I am saying is if we do not have that $137.9 billion or most of it, we are not going to be able to make rational decisions about this year's budget.

Mr. BOWSHER. I think that is correct, Mr. Chairman.

All right, I would like now to move into the need to reassess some of the major weapons acquisitions.

The Congress will need accurate and timely information to use in scaling down the types and the quantities of major weapons systems that enter DOD's inventory.

In the President's budget for fiscal year 1991, 20 programs are scheduled for termination. These programs account for about $3 billion of reductions in fiscal year 1991 and a total of $28.3 billion in reductions between fiscal years 1991 and 1994.

In view of the lessening tensions with the Soviets, the change in the types of conflicts we are likely to face in the future, and the increase in warning time that appears to have come about as a result of the reduced tensions, now is the time to rethink our entire weapons system acquisition strategy.

During the 1980s, numerous systems were approved for production before adequate testing had been done to ensure that the weapons did what they were supposed to do. This strategy of concurrent production and testing was designed to get the systems in the field more quickly, but it often resulted in making extensive—and sometimes expensive—changes after the systems were fielded.

In some cases, it resulted in systems that did not perform their mission. Several major systems acquisitions such as the following are now following this same path. One is the B–2 bomber program. The B–2 acquisition strategy includes cost and schedule projections that rely on very high annual funding levels, $7.5 to $8 billion, and on ordering a large number of planes before the necessary testing is completed to demonstrate that the B–2 can perform its mission.

From 1986 to 1989, the B–2 cost estimate increased by a net of $12 billion. Cost increases are estimated at $18 billion. Projected future savings are projected at $6 billion for the net cost increase of $12 billion. The final B–2 delivery was extended 3 years to 1999.

Future schedule changes and cost increases will occur if projected annual funding requirements are not appropriated or if plan program savings are not achieved.

The flight test program has just begun. If current schedules are met, it will be at least 3 years before critical performance requirements have been fully tested.

At that point in testing, problems are typically discovered and under the current schedule, over $48 billion will have been appropriated and 31 aircraft will have been ordered.

Major design changes early in the B–2s development caused manufacturing difficulties that have contributed to a slower production schedule and labor cost increases. Contractors have reported improvements in productivity and reductions in manufacturing defects, but these improvements are less than anticipated.

Also, continuing design changes may further hinder manufacturing improvements. In view of all these uncertainties as well as the changing world conditions, we believe that it would be prudent to reduce the pace of the funding and the production of the B–2 in order to limit up-front investment until the critical performance elements of the aircraft have been adequately evaluated.

RAIL GARRISON

Initial operational capability for the rebased Peacekeeper missiles is planned for fiscal year 1992, and the full operational capability of all 50 missiles is planned to be achieved in 1994. To meet these milestones, an initial low rate production decision for the missile launch cars is scheduled for February 1991.

At the time the initial production decision is scheduled to be made, no operational test and evaluation of the complete weapons system, including the missiles and the rail launch cars, will have been conducted. Additionally, the Air Force plans to purchase about 73 percent of the launch cars after the initial production decision. Such a large purchase would, in effect, amount to a full rate production without any operational test or evaluation of the complete weapons system.

The Air Force considers the rail garrison to be a low technical risk because it views the program as basically an engineering effort to integrate proven missile systems into the existing rail industry. The rail garrison test and evaluation master plan, however, identifies unique characteristics of the program that require testing. These include:

One, the capability of the train to withstand missile launch;

Two, the launch effects on commercial railroad track beds and the ability of the train to resume mobile operation after launch;

Three, the capability of the guidance and the control system to recover specified levels of accuracy following rail transit; and

Four, the effects of horizontal basing and rail movement on Peacekeeper missile performance and reliability.

We have recommended that the initial production decision be deferred until the Air Force has conducted some operational test and evaluation of the complete weapons system. While the Air Force has delayed the initial production decision from April 1990 to February 1991, the first flight test of the complete weapons system is

not scheduled until the third quarter of fiscal year 1992. We believe, therefore, that the $1.62 billion in the fiscal year 1991 budget for the procurement of rail launch cars ($1.35 billion) and the construction of the garrisons ($269 million) should be deferred pending completion of the operational test and evaluation of the test results.

We also believe that the $102.6 million advance procurement funding and the $104.8 million in military construction funding which was appropriated in fiscal year 1990, should be rescinded.

THE M1 BLOCK II PROGRAM

The Army requested $166 million in fiscal year 1990 for advance procurement to produce a costly and significantly modified Abrams M1A1 tank. The Army believed that the modified tank called the M1A2 was needed as an interim response to future Soviet threats. The Secretary of Defense has also requested funding in the fiscal year 1991 budget to produce 62 M1A2 tanks. With the completion of these tanks in March of 1993, production of the Abrams tank is planned to be terminated.

In December 1988, the Defense Acquisition Board conditionally approved the Block II program for development, but placed a $300,000 per tank limit on the modification. This program is the third in the series, I might add, of block modifications to the Abrams tank. As currently designed, the modification package will cost about $532,000 per tank with total program production costs of over $1.5 billion.

The Block II modifications are intended to improve the tank's survivability, fightability and fire power as well as to provide a linkage to the next generation of main battle tanks. The current package design, however, does not include all the survivability or fightability and the fire power enhancements envisioned when the Army performed its cost and operational effectiveness analysis.

In attempt to field an upgraded tank within the prescribed time frame, the Army adopted a compressed acquisition strategy which is risky, because key components of the modification package are in the early stages of development, and testing and evaluation will not be completed when certain production decisions are made. Thus, under the current plans, the Army will commit advance procurement funds before test results are available.

We agree with the Secretary of Defense's decision to terminate the program.

THE DDG-51

The DDG-51 contractor has experienced problems in design and constructing the lead ship. Because of these problems and because the Navy has changed the contract requirements, costs have increased substantially, and the expected delivery schedule has slipped about 17 months from the original estimate.

The target costs for the lead ship were initially established at $111 million for design and $157 million for construction. Target costs are now estimated at $247 million for design and $253 million for construction. These costs do not include government furnished equipment such as the Aegis combat system.

Although the contractor estimates that about 50 percent of the lead ship is complete, the major job of outfitting the ship remains to be done. The combat system and other technical components have to be installed and integrated within the ship.

Often in the development of new systems, it is during the system's integration phase and subsequent testing that problems surface. The schedule and the costs of follow-on ships are often affected. Although the first follow-on ship is only 1 percent complete, the estimated cost to complete it is already over the ceiling price by 11 percent, according to the contractor, and by 22 percent, according to the Navy.

In January 1990, we issued a report on the DDG-51 program in which we recommended that the Secretary of Defense delay the contract award for the follow-on ships until he could provide assurance as to the development and the affordability of the program.

Last week, the Navy awarded contracts for five follow-on ships and now has a total of 12 follow-on ships under contract. Furthermore, the Navy could have as many as 17 follow-on ships under construction or awarded before the lead ship has finished testing and has been delivered in February of 1991. We believe that the DDG-51 program should be reexamined.

THE ADVANCED COMBAT SYSTEMS FOR SUBMARINES

To meet the new Soviet threats and to ensure continued U.S. submarine superiority, the Navy has initiated the development of two new advanced combat systems. The AN/BSY-1 is to be installed in the improved SSN-688 class nuclear attack submarine, and the AN/BSY-2 is to be installed in the SSN-21. The life cycle cost for the two systems is estimated at over $26 billion.

These two systems have experienced problems. Problems with the BSY-1 raised questions about when the improved SSN-688 will be fully mission capable. In its overly ambitious development objectives and schedules for the combat development program, the Navy allowed insufficient time to resolve technical problems. While the BSY-1 system will provide the SSN-688 with improved acoustics and weapon launch capabilities, the system will be less capable in other areas. Also, these improved capabilities will be delivered later and will cost more than originally planned.

Potential problems with the BSY-2 are similar to problems the Navy has experienced in developing other advanced submarine combat systems including the BSY-1. In order to meet the SSN-21's construction schedule, the Navy also established overly ambitious objectives and schedules for the BSY-2. As a result, the first combat systems will not have full capabilities when they are delivered to the shipbuilder. The contractor will not be able to deliver the first combat system with full capability to the Navy until November 1994, 1 year later than necessary to meet the scheduled delivery of the first SSN-21 in May 1995.

One of the major problems affecting the BSY-2 system has to do with its computer software. The system involves the largest computer software development effort ever undertaken for a submarine. According to the contractor's software development plan, it will require 900 software personnel to develop and integrate 3.6

million lines of code written primarily in a computer language with which few experienced programmers are familiar. No consistent training program has yet been developed by the contractor.

Also challenging will be:

One, designing the system with sufficient reliability to ensure that mission needs are met;

Two, developing, refining and testing of models to accurately predict system performance;

Three, ensuring that there is sufficient time for the Government to witness software testing and to resolve identified problems; and

Four, ensuring that the independent verification and validation assessments are performed on the software.

The next area I would like to talk about is the automated information systems at DOD. Computers are a problem not only with weapons systems but with automated information systems as well. Our work on eight automated information systems being developed by the Army, Air Force, Navy and Defense Logistics Agency showed a disturbing pattern of cost growth, scheduled delays and performance shortfalls.

Furthermore, the cost estimates provided to the Congress in budget submissions were not always accurate, current or complete, and the systems generally lack internal oversight to identify problems that needed to be corrected during the development phase.

All the systems have experienced significant cost growth, some in the hundreds of millions of dollars. As of September 1988, the estimated cost to develop and deploy the systems was about $2 billion, twice the originally estimated cost.

Four of the systems have been in development for at least 8 years, and three of the eight systems' development efforts were abandoned after spending $330 million.

Budget submissions to the Congress have understated the total life cycle costs for some of the system because DOD components have not provided current, accurate and complete cost information. The oversight body within the Office of Secretary of Defense has not rigorously enforced established policies, procedures and criteria for reviewing major systems to identify and resolve problems with system development and to curb the cost growth and implementation delays.

Chairman NUNN. Mr. Bowsher, because everything you are saying here is of great importance, let me suggest at this point we take our break and come back at 11:30 a.m. I think people would like to hear the end of your testimony. We will just pick up right here when we come back.

[Whereupon, at 10:43 a.m. the committee recessed, to reconvene at 11:38 a.m. this same day.]

Chairman NUNN. The committee will come back to order.

Mr. Bowsher, why not take up right where you left off.

Mr. BOWSHER. Fine, Mr. Chairman.

I am on the middle of page 11 for those who are following my statement.

The recently issued Defense Management Report projects savings totaling $39 billion between fiscal years 1991 and 1995. Of this total, $2.3 billion is related to the fiscal year 1991 budget. Savings are anticipated by reducing and consolidating various functions

and activities, streamlining the operations of organizations, and reducing the number of civilian and military personnel associated with these activities.

We have recommended many of these proposed cost saving measures in previous reports. For example, we previously recommended consolidating depots and maintenance facilities, centralizing payroll functions, reducing supply system costs, establishing realistic aircraft spare requirements, and streamlining the acquisition process.

I would like to emphasize, as I did earlier when I was talking about the charts, that the anticipated savings are merely projections. To a large extent, the initiatives to achieve these savings are proposed in broad terms. Statements on these initiatives do not contain the detailed plans or milestones that will be required to successfully implement the initiatives. The savings referred to in this report, therefore, are merely targets.

The initiatives DOD proposes in its Defense Management Report are commendable in that they offer opportunities to achieve significant savings. It is too early to tell, however, whether these projected savings will be achieved. Furthermore, achieving these savings will require a sustained effort on the part of DOD's management over several years. DOD's track record in carrying out such long-term initiatives is somewhat questionable when we look at history.

Now I would like to talk just briefly about the recent audit we did on the Air Force financial operations. In summary, the Air Force does not have accurate cost data for almost all of its noncash assets such as inventory, equipment, aircraft and missiles. Over 70 percent of the accounts on its consolidated statement of financial position were unauditable; therefore, we were unable to express an opinion on the financial statements for fiscal year 1988.

Also because of these weaknesses, the financial information reported to the Office of Management and Budget and to the Department of Treasury is not reliable.

There are many reasons that the accounts were unauditable. The Air Force does not have financial systems that produce reliable financial data. A number of large dollar items, aircraft and accounts payable for example, are not included in its accounting systems. A double entry set of books with a general ledger is not maintained to establish full accountability over costs and assets. To balance its accounts, the Air Force has made a large number of adjustments, some over $1 billion, but Air Force officials could not explain the basis for these adjustments.

The inventory systems do not provide reliable data to support either the quantities or the values of inventories on hand. Also, there is no accounting for the full cost of its weapon systems.

The Air Force is aware of some of its problems and has taken a number of actions to correct them on a case-by-case basis. Its initiatives to prepare financial statements and have them audited is an important step.

The Defense Management Report identifies initiatives that will address several of the Air Force financial management weaknesses; however, cost effectiveness and efficiency need to become Air Force priorities if meaningful and lasting improvements are to be achieved in this area.

Last summer we launched a major effort to identify areas that are at risk to mismanagement, fraud and abuse. Our objective in doing this was to identify troublesome programs and functions in hopes of preventing another scandal similar to the one that has ravaged the Department of Housing and Urban Development. Much of what happened at HUD could have been avoided if stronger internal controls and better financial measures had been in place.

We have identified 14 vulnerable areas, two of which are in defense, and we have targeted them for special attention. The two areas in defense are DOD's inventory management systems and its major systems acquisitions.

I would now like to talk about the inventory management systems. DOD's inventories exceed $103 billion. About $34 billion of this amount is for items that are not needed to meet current operating or war reserve requirements.

Chairman NUNN. Does that translate, for the average person out there, to mean that $34 billion has been spent which should not have been spent?

Mr. BOWSHER. It translates to mean that $34 billion has been spent that will probably never be needed or used. That is about what it comes down to.

Let me ask Frank if he wants to add to that.

Mr. CONAHAN. Yes. I would like to point out that because of deficiencies in the records among the services, I do not know that you can be quite that categorical. I think that there are some things in there that are misclassified. There are things that indeed are needed, but they are classified as unneeded. So it is not as clear as all that.

Mr. BOWSHER. What I think would be fair, too, Frank, is that in our work over the years we have seen things misclassified and not counted properly going both ways.

Mr. CONAHAN. Going both ways.

Mr. BOWSHER. Yes.

Chairman NUNN. In other words, some of that may be needed but not just classified properly. Some of it may not be needed at all.

If it is misclassified, is it in the system in a way that the services can get it if they need to? Can they recall it from inventory if they need to?

Mr. CONAHAN. Well, they have to do an awful lot of work to identify it. We have made recommendations over a long period of time that they clean up these systems so that they can do it more easily. Right now it is very difficult to get to.

Chairman NUNN. It was about 3 or 4 years ago that you all reported this, or 2 or 3 years ago at least. Are we saying that no improvements have been made since this originally came to the attention of the military?

Mr. CONAHAN. I would say that very little improvement has been made. I think that the Department of Defense at the Secretary of Defense level recognizes the problems. As a matter of fact, earlier this week we were talking with the Deputy Secretary. He points out that the defense management review, in part, is directed to the correction of these deficiencies.

Our experience has been that there has been no follow-through on implementation. We talk about the need to do these things, but we do not see programs in place, within the services, to get these things fixed.

Chairman NUNN. Is a lot of this spare parts? Is it what we would call operation and maintenance (O&M)? Where are these items, the $34 billion, in our budget?

Mr. CONAHAN. Most of it would be in O&M, though there are some in procurement accounts with respect to initial spares, for example.

Chairman NUNN. What will this tell us when we begin to mark up our budget? Are we putting items that we may not need into the system? Things that we are being asked to spend for this year?

Mr. CONAHAN. Yes, on a continuing basis, Mr. Chairman.

Senator MCCAIN. Question; point of order. Are we starting questioning, or what is the procedure of the committee? Could I ask that?

Chairman NUNN. I have been sitting here by myself for most of the morning, so I guess that that is the procedure we have been following.

Senator MCCAIN. Thank you, Mr. Chairman. I was just curious as to the procedure.

Chairman NUNN. If you want to interject, go right ahead.

Senator MCCAIN. Thank you, Mr. Chairman. Please go ahead.

Chairman NUNN. I would like to ask our witnesses how we can detect the items in our budget that we are being asked to authorize that we do not need. Is there a way to do that?

Mr. BOWSHER. It is not easy. Again, that is one of the main reasons I think this Air Force audit is so important.

Frank is right. We are not that sure about the accuracy of the dollar figures reported by the services. When we started talking about this 2 or 3 years ago, the services were reporting $30 billion of inventory for which there were no current operating or war reserve requirements. Now it is up to $34 billion, and we also have some indications that some definitions are being changed so that you do not put things into this unneeded category. In other words, something might have a 2-year supply that is said to be needed, and anything over 2 years is unneeded. Then they change the definition and say 3 years of supply are needed.

Chairman NUNN. Right now, when we pass our bill we are not going to know whether we are putting more money in or not.

Mr. BOWSHER. I think what you should be doing is setting some goals for reducing the unneeded inventories. Then as best you can, determine how the money is being spent and how we can be assured that the money is not being spent for unneeded inventory.

I think eventually we are going to need a sale to dispose of some portion of the $34 billion of this inventory.

Senator MCCAIN. What are some examples of that inventory, Mr. Bowsher?

Mr. BOWSHER. Have we got some of those reports with us?

Mr. CONAHAN. Yes. I think that there are multiple examples. There are spare parts that have been purchased for weapons systems——

Senator MCCAIN. Which ones?

Mr. CONAHAN. The B–1, for one. There was a large amount of spare parts purchased for the defensive avionic systems which were obsolete before they were procured because they had not fully developed the system.

We can come up with a number of examples of things like that.

Senator MCCAIN. I would like some. Please proceed.

Mr. CONAHAN. We have some, yes, sir.

Senator MCCAIN. I would like to hear them, Mr. Conahan.

Mr. CONAHAN. As I said, the B–1 is one example of them.

Senator MCCAIN. Good. Proceed.

Mr. CONAHAN. You are looking for other systems?

Senator MCCAIN. Yes, Mr. Conahan. We have $34 billion in examples.

Chairman NUNN. Let us just say any examples. Do they have too much toothpaste? Do they have too many uniforms? Do they have too many shoes? What is it that we are putting in here is what I think Senator McCain is trying to get at.

Mr. CONAHAN. We issued a report just the other day which shows items being stocked at the ship and submarine support organization in Philadelphia that were in excess. We are talking about generators. We are talking about valves. We are talking about all sorts of things that are used in both ships and submarines. I can provide that report to you. It very clearly shows the specific parts that are excess to current needs.

[A copy of GAO/NSIAD report 90-111 will be retained in committee files.]

Senator WARNER. Do they have any resale value under this sale as Mr. Bowsher has suggested?

Mr. CONAHAN. I think that they would, yes, sir.

Senator WARNER. Not that there are any B–1 people out there who are going to put it on their private aircraft.

Mr. BOWSHER. That is what I think has to be done. You have to go through and decide what could we possibly use.

Senator MCCAIN. We have the B–1 defensive equipment, and we have generators and parts for ships and submarines. If you will excuse me, that is a long way from $34 billion. Would you please give us some more examples?

Mr. BOWSHER. I think the best way to do that would be to give you the reports that we have issued in the last year or two.

[Copies of GAO/NSIAD reports 90-68 and 90-100 will be retained in committee files.]

Senator MCCAIN. We are talking about $34 billion, Mr. Bowsher. I would hope that you would be able to bring more of them to mind besides these two.

Mr. CONAHAN. The ships and submarine parts that I am talking about ——

Senator MCCAIN. Is about how much?

Mr. CONAHAN. As I recall in our test, it was around $530 million.

Senator MCCAIN. We have about $32 billion to go.

Mr. CONAHAN. Yes, indeed.

Senator MCCAIN. Let us hear some.

Mr. CONAHAN. What I would like to do is to bring up for you——

Senator McCAIN. I would just like to hear them. If there is $34 billion worth, I would hope that you would be able to tell this committee what some of those are.

Mr. CONAHAN. These are not our numbers. These are the Department of Defense numbers, and they have categorized that amount as unneeded. We have done a large number of reports——

Senator McCAIN. The Department of Defense has categorized those as unneeded? That is not according to the Secretary of the Air Force.

Mr. CONAHAN. They have categorized them as in excess of current needs. They talk about current peacetime operating stocks and war reserves, and that number comes out of their report.

What we have is a series of reports dealing with various inventory control points which demonstrate, on an inventory control point basis, what this means in terms of real parts.

That is not a GAO number. I do not hold that out. That is a Department of Defense number, and we have examples of it.

Senator McCAIN. You are saying that the Department of Defense is making a case that they have $34 billion worth of unneeded and excess parts?

Mr. CONAHAN. They are making a case that they have $34 billion worth of items that are in excess of current operating needs and war reserve stocks.

Senator WARNER. I think in fairness many of these items were ordered and purchased in good faith to meet contingencies which were part of the approved strategy of this country. Up until just a few months ago we were continuing to plan for a major confrontation of conventional forces in the NATO arena. That threat appears to be receding. Had it occurred and had we not had the spare parts to carry out an operation of deterrence and defense, there would have been one hell of a howl raised back here in this country quite apart from the attendant loss of life and other consequences of being ill prepared.

So I hope that it is not the impression that this was just bad, reckless fraud, waste and abuse of people buying stuff that is now in dusty bins and wasting taxpayers' money. That is not what this statement is to reflect, is it, Mr. Bowsher?

Mr. BOWSHER. We are not saying that, but we are saying that we have done a number of reports over the last few years that show that excess material has been bought. Some of it has been shipped overseas. Some of it has been brought back. Some of it has been put into special warehouses.

So you have a large amount of inventory that is just not moving, and this was true 2 or 3 years ago before we had the change in the world conditions. In other words, in the early 1980s, DOD bought a large amount of inventory that was, according to their definitions, unneeded. To me, it seems like a lot of money when you think that at the same time we have been unable to buy some munitions, which we have also had to report on.

When you think about it, if we could have bought this inventory a little more skillfully than we did in the early 1980s——

Senator WARNER. Or better yet, not have purchased it.

Mr. BOWSHER. ——not bought some of it, I think you would have had more money for other things that we——

Senator WARNER. Are you able to quantify? Senator McCain pressed you for items, but I would press you for a breakout of the $34 million can be attributed to just bad management.

Chairman NUNN. Billion.

Senator WARNER. Yes. Thank you, Mr. Chairman.

In other words, the American public sits back and reads the headline story, $34 billion. That is real money, and they say to themselves, well, that department cannot run——

Senator MCCAIN. May I interrupt my friend for just a second?

Senator WARNER. Yes, sure.

Senator MCCAIN. According to the Secretary of the Air Force, at a public meeting GAO staff have been described as intentionally sensationalizing the title of the report to increase its newsmaking potential.

Mr. BOWSHER. I think he put that in his letter to me on the financial audit.

Senator MCCAIN. That is an allegation made by the Secretary of the Air Force.

Mr. BOWSHER. Yes, and I do not know to what that goes because we do not try to sensationalize our reports, sir.

Senator MCCAIN. I think you should refute that. That is a very serious allegation that the Secretary of the Air Force has made.

Mr. BOWSHER. I intend to refute that in a letter to the Secretary of the Air Force. I definitely do.

Senator WARNER. Let me stay with your statement here. $34 billion of this amount is for items that are not needed to meet current operating war reserve requirements.

Now of that figure, is there any way to determine what should never have been purchased in the beginning for any contingency?

Mr. CONAHAN. One of the difficulties, Senator Warner, is trying to come up with the exact number you are looking at. You can do it antidotally. You can do it at the buying command level.

For example, we recently did work at the Defense Logistics Agency and at the Army's Aviation Systems Command. We found that both organizations, on a continuing basis, buy spare parts that are not required. The computer programs that they use will spit up a requisition that is already in an excess position.

There is a body of work that needs to be done in order to decide whether you cancel that order or whether you go forward with it.

Senator WARNER. That is clearly waste, fraud and abuse.

Mr. CONAHAN. That body of work is not being done, and they continue to buy that stuff. We have example after example.

To wrap that all up and tell you what that number is up there, the systems are not in place to do that.

Senator WARNER. It is considerably less than $34 billion?

Mr. CONAHAN. In that category, yes, sir.

Senator WARNER. Part of the $34 billion, then, was ordered with the best of intentions to equip the forces in terms of the contingencies they might face?

Mr. CONAHAN. That is correct. There are a number of parts that are associated with systems that are being phased out right now.

Senator MCCAIN. Many of the current requirements had to be adjusted on a year-by-year basis as the 5-year plan was dramatically changed every year, as it continues to be changed.

Mr. CONAHAN. One of the difficulties has been that they have not done as good a job as they should have in matching reductions in spare parts, follow-on spare parts, when they make decisions on the basic end item.

Senator MCCAIN. As I said, I am not sure of the procedure.

Chairman NUNN. Go ahead, Senator McCain.

Senator MCCAIN. DOD officials explained, according to your report, that rapidly changing events make it difficult to make decisions at this time on where and how these reductions will be made.

Tell me, Mr. Conahan. A year ago would you have been able to predict what reductions need to be made?

Mr. CONAHAN. On the kinds of items that we are talking about, I think so. We are not talking about broad policy strategy shifts here. We are talking about whether individual spare parts for a weapon are required. The system tells you when you put in a requisition whether or not that particular item is in an excess capacity or not. Certain steps have to be taken, and they are not taking them.

Senator MCCAIN. The changes in the defense budget which have been rather significant over the last couple of years have had no effect on this?

Mr. CONAHAN. In a broad sense they have, but on an individual item basis they have not had much of an effect.

Senator MCCAIN. If a weapons system is canceled, it seems the spare parts for it then become fairly redundant.

Mr. CONAHAN. Absolutely. I agree with you.

Senator MCCAIN. Has that had an impact?

Mr. CONAHAN. That has. That is a category that is in there, yes, sir. But there are a host of reasons why we have this condition, and that is the point that we would like to make.

It has been growing. As a matter of fact; in 1980 the number reported by the Department of Defense was $10.2 billion, and that has increased up to a reported $34 billion today.

Chairman NUNN. Is there any way to force them to go in and weed all this out and decide which they really need and which they can sell and what they can sell it for? Is somebody doing that? Should Congress do that?

Mr. BOWSHER. I think you should definitely consider calling for that kind of review, because I think one of the things that must be costing an awful lot of money is the carrying cost.

In other words, when you have excess inventory in any organization, you have to store it; you have to count it; you have to protect it; and you have to move it lots of times. I think a lot of cost is being incurred at this time to handle this $30 billion plus of excess inventory.

So it seems to me that what is needed is a plan, and the Department of Defense should be asked to come up with a plan.

Chairman NUNN. Have you reviewed that management plan, their management initiatives in this respect, to see whether you think they are adequate? They say they are taking initiatives here.

Mr. BOWSHER. That is exactly what they are saying; that is, they are going to go after this area. I believe Mr. Conahan had a meeting with Mr. Atwood, who said this is one of the two major areas that they were going to concentrate on.

Mr. CONAHAN. We reviewed the reports that we had done in this area as well as the reports done by the DOD Inspector General and the service audit agencies earlier this week. He has put together an outline. He has charged some people with putting together some implementation plans, and we are going to sit down together in 2 months or so to see if the plans respond to the kinds of concerns that we have had in this area.

Chairman NUNN. Is this the first time this has been done after all the reports you have issued on this?

Mr. CONAHAN. No. There have been continuing discussions with the Department of Defense. Unfortunately, they have in the past agreed to take corrective action but they do not seem to follow through.

The other day the Deputy Secretary said that things have changed. He said that he has been charged, as has the Secretary, by the President to improve management in this area, and they intend to get on with it.

Senator MCCAIN. The DOD Inspector General states, "In addition to our general concern that the overall tenor of this report is unfair and fails to take proper note of existing management systems without any specific support whatsoever," and the DOD Inspector General goes on to say, "The GAO report offers no specific savings but nonetheless infers from its title that billions can be saved."

It does not sound to me like you have a real good relationship going there, Mr. Conahan.

Mr. CONAHAN. I think that that relates not to the inventory so much as it relates to the accounting system.

Mr. BOWSHER. Senator, you are reading from the letter that the Secretary of the Air Force issued regarding our financial audit.

Senator MCCAIN. I am reading from his quotes—from the DOD Inspector General. He is quoting the DOD Inspector General.

Mr. BOWSHER. Yes, but it was in the letter that the Secretary sent to me in regard to the financial audit that we recently did on the Air Force.

Senator MCCAIN. What is the relevancy? He is quoting the DOD Inspector General.

Mr. CONAHAN. Senator McCain, the DOD Inspector General was with us at the meeting earlier this week, and she is in full agreement with ourselves and with the Deputy Secretary on the inventory deficiencies that exist and the things that need to be done to correct them.

So when it comes to the inventory area, I think there is no disagreement among any of the three parties.

Senator MCCAIN. You mean she did not say, "Our general concern is that the overall tenor of this report is unfair?"

Mr. CONAHAN. No, I did not say she did not say that.

Senator MCCAIN. I see.

Mr. CONAHAN. In the inventory area, in terms of what needs to be done, I think that we are one.

Senator MCCAIN. She also claims that you offer no specific savings, but nonetheless infer that billions can be saved. I think she is talking about inventories and a lot of other things. I guess we would have to get her before the committee.

Chairman NUNN. I believe we are going to have to pursue this in more detail at another hearing, but perhaps what we ought to do now is go ahead and finish the whole presentation and see where we stand.

Mr. BOWSHER. If I could just reiterate one more time about the inventory numbers, and that is, it is the DOD numbers that we have been talking about, not GAO's. We did not go in and make a determination as to whether it is unneeded, or needed, or anything like that. What we have been doing is issuing reports pointing out what is happening, and that these are some of the areas that we think need looking at, That is what I would recommend to the committee.

I will continue on page 14. The total estimated cost of major systems currently being developed or produced exceeds $900 billion. As I have said before, enforcing established management controls to deliver capable and supportable weapons to the user when and where they are needed and at reasonable cost have been the exception rather than the rule.

As a result, DOD continues to buy systems that cost substantially more than the original estimate, are delivered much later than originally scheduled, and lots of times, do not have the advertised capabilities. We plan to address the effectiveness of the initiatives being taken to solve these long-term problems and to achieve meaningful savings.

The rapid changes that continue to sweep Eastern Europe pose enormous challenges for U.S. policymakers and legislators who must make difficult decisions in the face of uncertainty. DOD planners must restructure defense forces without a clear definition of some of the future security threats.

U.S. arms control negotiators find themselves rushing to conclude agreements that are complicated by major revisions in their own negotiating positions, announcements of unilateral force withdrawals by NATO allies and calls for the removal of Soviet troops by Eastern European nations.

While uncertainties about the future abound, continuing domestic budgetary pressures make the direction of the adjustments clear. U.S. forces that are withdrawn from Europe will probably be removed from the force structure. These withdrawals will require adjustments to logistical support, defense facilities both here and abroad, and major items of defense equipment.

How well the United States plans for and manages the required adjustments during this transitional period will in large measure determine the strength of the U.S. defense posture and U.S. standing in the world well into the next century.

In making these tough decisions, we should not forget the lessons we learned in the post-Vietnam era when we cut readiness and sustainability. In my view, the defense forces would be better served by ensuring that a smaller force is well trained and equipped, than by trying to maintain a larger force with no muscle.

In order to be in a position to respond to the many anticipated requests from the Congress, we have refocused much of our work in the defense area. In many cases, our refocusing has consisted of accelerating the type of work we have already planned to do. In other cases, we have reoriented the scope of our work to accommodate

the changes that have already taken place or are in the process of taking place. I would like to discuss some of these.

The first change relates to restructuring the armed forces. In so doing, we believe that sound planning will be essential if readiness and force quality are to be preserved during this turbulent period.

Last year, in a report we issued on the United States military presence in Europe, we stated that more than 723,000 service men and women, U.S. civilian employees, dependents and foreign national employees were stationed in Europe. The information in our report should be useful to your Committee in addressing the President's proposal to reduce U.S. forces in Europe and concerns about the costs associated with maintaining the U.S. overseas commitment.

DOD's planning is complicated by the still-evolving definition of the threat, on-going conventional and strategic arms negotiation, and budgetary pressures that may force deeper than anticipated cuts in defense spending. Budgetary savings will accrue from troop reductions in Europe, but only if forces are removed from the force structure. We plan to monitor DOD's evolving plans and to report, as necessary, on the reasonableness of the criteria used in making major force restructuring decisions, as well as the efficiency and effectiveness of other planned changes.

Restructuring the forces will also have major impacts such as the following: logistics, facilities, weapon acquisition programs, the defense industrial base, and strategy and doctrine. The return of troops and equipment to the United States will alter deployment plans and require reexamination of logistical support and strategic air and sealift requirements.

Proposals for U.S. and overseas base closures will force difficult decisions affecting local economies and plans for military construction and land acquisition. Closing bases will result in long-term savings but entail costs in the short-term.

Budgetary pressures will intensify debate over the future of key weapons systems acquisition programs and force modernization plans. These decisions could have major impacts on the U.S. defense industrial base.

The anticipated conventional and strategic arms controls agreements will require reassessment of basic military strategies and doctrines. Major decisions on naval force structures will need to be made as land forces are withdrawn from Europe. Restructuring may significantly alter the way reserve forces are employed, trained and equipped.

Other major areas that will be affected by the changing events in Eastern Europe are arms control and the changing U.S. role in NATO. The on-going conventional and strategic arms control negotiations are expected to result in major accords this year. Once these agreements are concluded, the focus will shift to implementation and verification. Costs as well as benefits will accrue from these accords.

As political restructuring proceeds in Europe, the role of NATO will be redefined, and there may be adjustments to the U.S. role and its security commitments. We have a series of on-going and planned assignments to address these issues as well.

Mr. Chairman, that concludes my statement. We would be happy to answer any questions.

I think the last point that I would make is the point that many of the changes are going to have short-term costs. In other words, as we make decisions about redeployments; as we make decisions on some of the weapons systems; one of the things we learned in the late 1960s and early 1970s as we came out of Vietnam is that in those early years you do not get the big savings immediately.

So I think that one of the things that should be looked at very carefully, and why I think you need the out-year information, is that the decisions that are going to be made are not going to bring immediate savings that a lot of people are hoping for, but if you make the right decisions, it could mean a lot of savings in the long term.

Chairman NUNN. We almost have to approach this on a 5-year basis to have any logical rationale.

Mr. BOWSHER. I think that is very true, Mr. Chairman, I really do.

[The prepared statement of Mr. Bowsher follows:]

PREPARED STATEMENT OF CHARLES A. BOWSHER
COMPTROLLER GENERAL OF THE UNITED STATES

Mr. Chairman and Members of the Committee:

I appreciate the opportunity to testify today before this Committee to present GAO's views on the defense budget. The rapidly changing events in the world, particularly in Eastern Europe, are creating new challenges; and the Department of Defense (DOD) and the Congress are striving to cut defense spending while maintaining national security.

In this type of environment, hard decisions are even more difficult to make, but this environment also affords opportunities to reassess strategies and priorities. My statement today will focus on the following areas:

-- the prospects for deficit reductions in fiscal year 1991 and beyond;

-- the relationship between the most recent Five Year Defense Plan and the 5-year budget projections for defense spending in the President's fiscal year 1991 budget submission;

-- our observations on the management of defense activities and programs and a possible means to improve the management of these activities and programs;

-- our views on the prospects for achieving the anticipated savings identified in the recently issued Defense Management Report;

-- the results of our recently completed financial review of the Air Force;

-- the vulnerability of certain DOD program activities to fraud, waste, and abuse and what we believe needs to be done to reduce these risks; and

-- other program areas in which we have refocused our defense work to better respond to the rapidly changing political, military, and economic picture throughout the world.

PROSPECTS FOR DEFICIT REDUCTION
IN FISCAL YEAR 1991 AND BEYOND

The President's budget for fiscal year 1991 projects a deficit of $63.1 billion and a budget surplus by 1993. In my view, these projections are the result of creative bookkeeping; they do not portray the real situation. Using the Congressional Budget Office's numbers, I believe that the deficit will exceed $270 billion in fiscal year 1990 and will increase to over $300 billion by fiscal year 1995 if you exclude the surplus in trust funds from the deficit calculation.

The true deficit situation is masked because we are using surpluses in the federal trust funds (for Social Security, highways and other areas) to pay current operating expenses. By doing this, the government creates the illusion that the deficit problem is being solved when in actuality it is getting worse. For example, in fiscal year 1990, the government used $132 billion of the Social Security and other government trust funds to pay current operating expenses and cloud the true deficit situation. In fiscal year 1991, it is estimated that the government will use about $136 billion of trust funds to reduce the actual deficit.

If we continue along this same path, we can expect the national debt to increase to $4.5 trillion by fiscal year 1995. A debt of this magnitude would require annual interest payments of over $335 billion and would represent the largest single item in the federal budget.

RELATIONSHIP BETWEEN THE FIVE YEAR
DEFENSE PROGRAM AND THE PRESIDENT'S BUDGET

The President's fiscal year 1991 budget request reflects a fiscal year 1990 to 1994 defense budget projection of $1.5 trillion. This is $212 billion less than the most recent Five Year Defense Program (FYDP) which was prepared in 1989.

To date, DOD has decided on reductions of $74.1 billion from the 1989 FYDP: $4.2 billion in fiscal year 1990, $22.4 billion in fiscal year 1991, $22.8 billion in the outyears, and $24.7 billion in anticipated savings related to the Defense Management Report. Even so, DOD is still faced with decisions on how and where to make reductions of another $137.9 billion ($212 billion minus $74.1 billion) between fiscal years 1992 and 1994.

DOD officials explained that rapidly changing events make it difficult, if not impossible, to make the decisions at this time on where and how these reductions will be made. For these reasons, a new FYDP has not been prepared. While we do not think that DOD should make hasty and premature decisions, it is important that these decisions be made soon. Until these decisions are made, program managers may be making decisions based on erroneous information. Resources that are now allotted to them in the FYDP may not be available. Furthermore, the Congress is faced with budget decisions that will have long-term implications, but without an updated FYDP, it does not have the information necessary to fully assess alternatives.

THE NEED TO REASSESS MAJOR WEAPONS ACQUISITIONS

The Congress will need accurate and timely information to use in scaling down the types and quantities of major weapon systems that enter DOD's inventory. In the President's budget for fiscal year 1991, 20 programs are scheduled for termination in fiscal year 1991. These programs account for about $3 billion of reductions in fiscal year 1991 and a total of $28.3 billion in reductions between fiscal years 1991 and 1994.

In view of the lessening tensions with the Soviets, the change in the types of conflicts we are likely to face in the future, and the increase in warning time that appears to have come about as a result of the reduced tensions, now is the time to rethink our entire weapon system acquisition strategy.

During the 1980s, numerous systems were approved for production before adequate testing had been done to ensure that the weapons did what they were supposed to do. This strategy of concurrent production and testing was designed to get systems in the field more quickly, but it often resulted in making extensive--and expensive--changes after the systems were fielded. In some cases, it resulted in systems that did not perform their mission. Several major systems acquisitions, such as the following, are now following this same path:

The B-2 Bomber Program: The B-2 acquisition strategy includes cost and schedule projections that rely on very high annual funding levels ($7.5 to $8.0 billion) and on ordering a large number of planes before the necessary testing is completed to demonstrate that the B-2 can perform its mission.

From 1986 to 1989, the B-2 cost estimate increased by a net $12 billion: cost increases are estimated at $18 billion, and projected future savings are projected at $6 billion. The final B-2 delivery was extended 3 years to 1999. Future schedule changes and cost increases will occur if projected annual funding requirements are not appropriated or if planned program savings are not achieved.

The flight test program has just begun. If current schedules are met, it will be at least 3 years before critical performance requirements have been fully tested. At that point in testing, problems are typically discovered, and under the current schedule, over $48 billion will have been appropriated, and 31 aircraft will have been ordered.

Major design changes early in the B-2's development caused manufacturing difficulties that have contributed to a slower production schedule and labor cost increases. Contractors have reported improvements in productivity and reductions in manufacturing defects, but these improvements are less than anticipated. Also, continuing design changes may further hinder manufacturing improvements.

In view of all of these uncertainties, as well as changing world conditions, we believe that it would be prudent to reduce the pace of the funding and production of the B-2 in order to limit up-front investment until the critical performance elements of the aircraft have been adequately evaluated.

Rail Garrison: Initial operational capability for the rebased Peacekeeper missiles is planned for 1992, and the full operational capability of all 50 missiles is planned to be achieved in 1994. To meet these milestones, an initial low-rate production decision for the missile launch cars is scheduled for February 1991.

At the time the initial production decision is scheduled to be made, no operational test and evaluation of the complete weapon system (including the missiles and rail launch cars) will have been conducted. Additionally, the Air Force plans to purchase about 73 percent of the launch cars after the initial production decision. Such a large purchase would, in effect, amount to full-rate production without any operational test or evaluation of the complete weapon system.

The Air Force considers the Rail Garrison to be a low technical risk because it views the program as basically an engineering effort to integrate proven missile systems into the existing rail industry. However, the Rail Garrison Test and Evaluation Master Plan identifies unique characteristics of the program that require testing. These include (1) the capability of the train to withstand missile launch, (2) the launch effects on commercial railroad trackbeds and the ability of the train to resume mobile operation after launch, (3) the capability of the guidance and control system to recover specified levels of accuracy following rail transit, and (4) the effects of horizontal basing and rail movement on Peacekeeper missile performance and reliability.

We have recommended that the initial production decision be deferred until the Air Force has conducted some operational test and evaluation of the complete weapon system. While the Air Force has delayed the initial production decision from April 1990 to February 1991, the first flight test of the complete weapon system is not scheduled until the third quarter of fiscal year 1992. Therefore, we believe that the $1.62 billion in the fiscal year 1991 budget for the procurement of the rail launch cars ($1.35 billion) and construction of the garrisons ($269 million) should be deferred pending completion of operational tests and evaluation of the test results. We also believe that the $102.6 million in advanced procurement funding and the $104.8 million in military construction funding, which was appropriated in fiscal year 1990, should be rescinded.

The M-1 Block II Program: The Army requested $166 million in fiscal year 1990 for advanced procurement to produce a costly and significantly modified Abrams M1A1 tank. The Army believed that the modified tank, called the "M1A2," was needed as an interim response to future Soviet threats. The Secretary of Defense has also requested funding in the fiscal year 1991 budget to produce 62 M1A2 tanks. With completion of these tanks in March 1993, production of the Abrams tank is planned to be terminated.

In December 1988, the Defense Acquisition Board conditionally approved the Block II program (the third in a series of block modifications to the Abrams tank) for development but placed a $300 thousand per-tank limit on the modifications. As currently designed, the modification package will cost about $532 thousand per tank with total program production costs of over $1.5 billion.

The Block II modifications are intended to improve the tank's survivability, fightability, and firepower, as well as to provide a linkage to the next generation of main battle tanks. However, the current package design does not include all the survivability, fightability, and firepower enhancements envisioned when the Army performed its cost and operational effectiveness analysis.

In an attempt to field an upgraded tank within the prescribed time frame, the Army adopted a compressed acquisition strategy, which is risky because key components of the modification package are in the early stages of development, and testing and evaluation will not be completed when certain production decisions are made. Thus, under the current plans, the Army will commit advanced procurement funds before test results are available.

We agree with the Secretary of Defense's decision to terminate the program.

The DDG-51: The DDG-51's contractor has experienced problems in designing and constructing the lead ship. Because of these problems and because the Navy has changed the contract's requirements, costs have increased substantially, and the expected delivery schedule has slipped about 17 months from the original estimate.

The target costs for the lead ship were initially established at $111 million for design and $157 million for construction. Target costs are now estimated at $247 million for design and $253 million for construction. These costs do not include government-furnished equipment, such as the AEGIS combat system.

Although the contractor estimates that about 50 percent of the lead ship is complete, the major job of outfitting the ship remains to be done. The combat system and other technical components have to be installed and integrated within the ship. Often, in the development of new systems, it is during the systems integration phase and subsequent testing that problems surface. The schedule and costs of follow-on ships are often affected.

Although the first follow-on ship is only 1 percent complete, the estimated cost to complete it is already over the ceiling price by 11 percent, according to the contractor, and by 22 percent, according to the Navy. In January 1990, we issued a report on the DDG-51 program in which we recommended that the Secretary of Defense delay the contract award for follow-on ships until he could

provide assurance as to the development and affordability of the program.

Last week, the Navy awarded contracts for 5 follow-on ships and now has a total of 12 follow-on ships under contract. Furthermore, the Navy could have as many as 17 follow-on ships under construction or awarded before the lead ship has finished testing and has been delivered in February 1991. We believe that the DDG-51 program should be reexamined.

The Advanced Combat Systems for Submarines: To meet new Soviet threats and to ensure continued U.S. submarine superiority, the Navy has initiated the development of two new advanced combat systems. The AN/BSY-1 is to be installed in the improved SSN-688 class nuclear attack submarine, and the AN/BSY-2 is to be installed in the SSN-21. The life-cycle cost for the two systems is estimated at over $26 billion.

These two systems are experiencing problems. Problems with the AN/BSY-1 raise questions about when the improved SSN-688 will be fully mission capable. In its overly ambitious development objectives and schedules for the combat development program, the Navy allowed insufficient time to resolve technical problems. While the AN/BSY-1 system will provide the SSN-688 with improved acoustics and weapons launch capabilities, the system will be less capable in other areas. Also, these improved capabilities will be delivered later and will cost more than originally planned.

Potential problems with the AN/BSY-2 are similar to problems the Navy has experienced in developing other advanced submarine combat systems, including the AN/BSY-1. In order to meet the SSN-21's construction schedule, the Navy also established overly ambitious objectives and schedules for the AN/BSY-2 program. As a result, the first combat systems will not have full capabilities when they are delivered to the shipbuilder. The contractor will not be able to deliver the first combat system with full capability to the Navy until November 1994, 1 year later than necessary to meet the scheduled delivery of the first SSN-21 in May 1995.

One of the major problems affecting the AN/BSY-2 system has to do with its computer software. The system involves the largest computer software development effort ever undertaken for a submarine. According to the contractor's software development plan, it will require 900 software personnel to develop and integrate 3.6 million lines of code written primarily in a computer

language with which few experienced programmers are familiar. No consistent training program has yet been developed by the contractor. Also challenging will be (1) designing a system with sufficient reliability to ensure that mission needs are met; (2) developing, refining, and testing a model to accurately predict system performance; (3) ensuring that there is sufficient time for the government to witness software testing and to resolve identified problems; and (4) ensuring that independent verification and validation assessments are performed on the software.

DOD's Automated Information Systems

Computers are a problem not only with weapon systems but with automated information systems as well. Our work on eight automated information systems being developed by the Army, the Air Force, the Navy, and the Defense Logistics Agency showed a disturbing pattern of cost growth, schedule delays, and performance shortfalls. Furthermore, the cost estimates provided to the Congress in budget submissions were not always accurate, current, or complete, and the systems generally lacked internal oversight to identify problems, such as the following, that needed to be corrected during the development phase:

-- All the systems have experienced significant cost growth, some in the hundreds of millions of dollars. As of September 1988, the estimated cost to develop and deploy the systems was about $2 billion--about twice the originally estimated cost.

-- Four of the systems have been in development for at least 8 years, and three of the eight systems' development efforts were abandoned after spending $330 million.

-- Budget submissions to the Congress have understated the total life-cycle costs for some of the systems because DOD components have not provided current, accurate, and complete cost information.

-- The oversight body within the Office of the Secretary of Defense has not rigorously enforced established policies, procedures, and criteria for reviewing major systems to identify and resolve problems with system development and to curb cost growth and implementation delays.

DEFENSE MANAGEMENT REPORT SAVINGS IN THE FISCAL YEAR 1991 BUDGET

The recently issued Defense Management Report projects savings totaling $39 billion between fiscal years 1991 and 1995. Of this total, $2.3 billion is related to the fiscal year 1991 budget. Savings are anticipated by reducing and consolidating various functions and activities, streamlining the operations of organizations, and reducing the numbers of civilian and military personnel associated with these activities.

We have recommended many of these proposed cost saving measures in previous reports. For example, we previously recommended consolidating depots and maintenance facilities, centralizing payroll functions, reducing supply system costs, establishing realistic aircraft spares requirements, and streamlining the acquisition process.

I would like to emphasize that the anticipated savings are merely projections. To a large extent, the initiatives to achieve these savings are proposed in broad terms; statements on these initiatives do not contain the detailed plans or milestones that will be required to successfully implement the initiatives. Therefore, the savings referred to in the report are merely targets.

The initiatives DOD proposes in its Defense Management Report are commendable in that they offer opportunities to achieve significant savings. However, it is too early to tell whether these projected savings will be achieved. Furthermore, achieving these savings will require a sustained effort on the part of DOD's management over several years. DOD's track record in carrying out such long-term initiatives is somewhat questionable.

FINANCIAL REVIEW OF THE AIR FORCE

I would now like to briefly discuss the results of our most recently completed audit of the Air Force's financial operations.

The Air Force does not have accurate cost data for almost all of its non-cash assets such as inventory, equipment, aircraft, and missiles. Over 70 percent of the accounts on its consolidated statement of financial position were unauditable, and therefore, we were unable to express an opinion on the financial statements for

fiscal year 1988. Also, because of these weaknesses, the financial information reported to the Office of Management and Budget and the Department of Treasury is not reliable.

There are many reasons that the accounts were unauditable. The Air Force does not have financial systems that produce reliable financial data. A number of large-dollar items--aircraft and accounts payable, for example--are not included in its accounting systems. A double-entry set of books with a general ledger is not maintained to establish full accountability over costs and assets. To balance its accounts, the Air Force has made a large number of adjustments--some over $1 billion--but Air Force officials could not explain the bases for these adjustments. The inventory systems do not provide reliable data to support either the quantities or the values of inventories on hand. Also, there is no accounting of the full cost of its weapons systems.

The Air Force is aware of some of its problems and has taken a number of actions to correct them on a case-by-case basis. Its initiative to prepare financial statements and have them audited is an important step. The Defense Management Report identifies initiatives that will address several of the Air Force's financial management weaknesses. However, cost-effectiveness and efficiency need to become Air Force priorities if meaningful and lasting improvements are to be achieved.

DEFENSE PROGRAMS THAT ARE VULNERABLE TO MISMANAGEMENT, FRAUD, AND ABUSE

Last summer, we launched a major effort to identify areas that are at risk to mismanagement, fraud, and abuse. Our objective in doing this was to identify troublesome programs and functions in hopes of preventing another scandal similar to the one that has ravaged the Department of Housing and Urban Development (HUD). Much of what happened at HUD could have been avoided if stronger internal controls and better financial management measures had been in place.

We have identified 14 "vulnerable" areas--2 in defense--and we have targeted them for special attention. The two areas in defense are DOD's inventory management systems and its major systems acquisition.

DOD's Inventory Management Systems

DOD's inventories exceed $103 billion; about $34 billion of this amount is for items that are not needed to meet current operating or war reserve requirements. DOD's inaccurate inventory records and its failure to cancel requisitions and planned procurement actions for unneeded items also reflect serious financial management problems.

Inventory management has focused on filling orders and obligating funds--not on reducing costs or controlling or securing stock. The situation has evolved to the point that the services often do not know what or how much they have in inventory or on order. In this type of environment, the system is vulnerable to mismanagement, fraud, and abuse. In addition, storing stock that may not be needed is expensive and contributes to inventory management inefficiencies. When inventory must be relocated to make room for additional incoming inventory, the potential for losing control over stock location is increased. This, in turn, can result in increased material denials and unnecessary procurements because the needed stock cannot be found.

With the current pressure to reduce DOD's budget, this area provides a great opportunity for DOD to make major improvements in its inventory systems.

DOD's Major Systems Acquisition

The total estimated cost of major systems currently being developed or produced exceeds $900 billion. As I have said before, enforcing established management controls to deliver capable and supportable weapons to the user when and where they are needed and at reasonable cost has been the exception rather than the rule. As a result, DOD continually buys systems that cost substantially more than originally estimated, are delivered much later than originally scheduled, and do not have the advertised capabilities. We plan to address the effectiveness of the initiatives being taken to solve these long-term problems and to achieve meaningful savings.

REFOCUSING GAO'S EFFORTS TO
MEET CHANGING NEEDS

The rapid changes that continue to sweep Eastern Europe pose enormous challenges for U.S. policymakers and legislators who must

make difficult decisions in the face of uncertainty. DOD planners must restructure defense forces without a clear definition of future security threats. U.S. arms control negotiators find themselves rushing to conclude agreements that are complicated by major revisions in their own negotiation positions, announcements of unilateral force withdrawals by NATO allies, and calls for the removal of Soviet troops by Eastern European nations.

While uncertainties about the future abound, continuing domestic budgetary pressures make the direction of the adjustments clear. U.S. forces that are withdrawn from Europe will probably be removed from the force structure. These withdrawals will require adjustments to logistical support, defense facilities both here and abroad, and major items of defense equipment. How well the United States plans for and manages the required adjustments during this transitional period will, in large measure, determine the strength of U.S. defense posture and the U.S. standing in the world well into the next century.

In making these tough decisions, we should not forget the lessons we learned in the post-Vietnam era when we cut readiness and sustainability. In my view, the defense forces would be better served by ensuring that a smaller force is well trained and equipped than by trying to maintain a larger force with no muscle.

In order to be in a position to respond to the many anticipated requests from the Congress, we have refocused much of our work in the defense arena. In many cases, our refocusing has consisted of accelerating the type of work we had already planned to do. In other cases, we have reoriented the scope of our work to accommodate the changes that have already taken place or are in the process of taking place. I would like to discuss some of these.

The first change relates to restructuring the armed forces. In so doing, we believe that sound planning will be essential if readiness and force quality are to be preserved during this turbulent period. Last year, in a report we issued on the U.S. military presence in Europe, we stated that more than 723,000 servicemen and women, U.S. civilian employees, dependents, and foreign national employees were stationed in Europe. The information in our report should be useful to your Committee in addressing the President's proposal to reduce U.S. forces in Europe and concerns about the costs associated with maintaining U.S. overseas commitments.

DOD's planning is complicated by a still-evolving definition of the threat, ongoing conventional and strategic arms negotiations, and budgetary pressures that may force deeper-than-anticipated cuts in defense spending. Budgetary savings will accrue from troop reductions in Europe but only if forces are removed from the force structure. We plan to monitor DOD's evolving plans and to report as necessary on the reasonableness of the criteria used in making major force restructuring decisions as well as the efficiency and effectiveness of other planned changes.

Restructuring the forces will also have major impacts, such as the following, on logistics, facilities, weapons acquisition programs, the defense industrial base, and strategy and doctrine:

-- The return of troops and equipment to the United States will alter deployment plans and require a reexamination of logistical support and strategic air and sealift requirements.

-- Proposals for U.S. and overseas base closures will force difficult decisions affecting local economies and plans for military construction and land acquisition. Closing bases will result in long-term savings but will entail costs in the short term.

-- Budgetary pressures will intensify debate over the future of key weapons acquisition programs and force modernization plans. These decisions could have major impacts on the U.S. defense industrial base.

-- The anticipated conventional and strategic arms control agreements will require a reassessment of basic military strategies and doctrine. Major decisions on naval force structure will need to be made as land forces are withdrawn from Europe. Restructuring may significantly alter the way reserve forces are employed, trained, and equipped.

Other major areas that will be affected by the changing events in Eastern Europe are arms control and the changing U.S. role in NATO. The ongoing conventional and strategic arms control negotiations are expected to result in major accords this year. Once these agreements are concluded, the focus will shift to implementation and verification. Costs as well as benefits will accrue from these accords. As political restructuring proceeds in Europe, the role of NATO will be redefined, and there may be adjustments to the U.S.

role and its security commitments. We have a series of ongoing and planned assignments to address these issues as well.

Mr. Chairman, this concludes my prepared statement. I would be pleased to answer questions at this time.

GAO Masking the Federal Deficit With Trust Funds

Dollars in Billions	Fiscal Year 1985 (actual)	1986 (actual)	1989 (actual)	1990 (estimate)	1991 (estimate)	1993 (estimate)	1995 (estimate)
Revenue	$734	$769	$991	$1,067	$1,137	$1,277	$1,438
Outlay	946	990	1,143	1,205	1,275	1,418	1,555
Total deficit	-$212	-$221	-$152	-$138	-$138	-$141	-$118
Federal fund deficit	-287	-283	-275	-270	-273	-297	-303
Trust fund surplus							
Social Security	9	17	52	66	74	98	126
Other trust funds	45	45	71	66	62	59	57
Subtotal, trust fund surplus	54	62	123	132	136	157	185
Total deficit	-$212	-$221	-$152	-$138	-$138	-$141	-$118

Note: Totals may not add due to rounding.

Source: FY 1985 and 1986–OMB's Special Analysis for FY 1987 and 1988.
FY 1989–OMB's Budget for FY 1991
Other Years–CBO's Economic and Budget Outlook, January 1990.

GAO Reductions in the Five Year Defense Program

Dollars in Billions		
April 1989 budget submission		$1,665.9
April 1989 FYDP adjustments		45.0
Subtotal		$1,710.9
Jan. 1990 budget submission		1498.9
Total FYDP reductions		**$212.0**
Reductions made		
1990 Congressional reductions	$4.2	
1991 DOD budget reductions	22.4	
1992–1994 Impact of 1991 reductions	22.8	
1991–1994 DMR reduction goals	24.7	74.1
Budget reduction decisions needed		**$137.9**

Chairman NUNN. Let me just ask one or two questions and then I will yield to my colleagues.

On page 4 of your statement you say it is "time to rethink our entire weapons acquisition strategy." You lay out a couple of rather unattractive options. One is, if we buy before we fly, as we have been doing, you say the costs are likely to go up as we discover problems and have to go back and correct them.

On the other hand, if we make sure we test everything first, or if we fly before we buy, we tend to stretch out the programs and have unit cost run-ups—very costly stretch-outs. Now, are you saying that stretch-outs are not necessarily bad, at least not for new programs that have not gone into production? Are you saying that we ought to make sure that we begin to pay more heed to the whole Packard Commission report and stretch things out if necessary in order to thoroughly test them? Is that what you are saying?

Mr. BOWSHER. What we are saying is that we think we bought into a lot of concurrency in the programs in the early 1980s, much as we did in the 1960s, and I think we are relearning with the B–1 and some of those programs the same lessons we learned then, and that is a lot of times we do not save money. We get weapons systems that have deficiencies and we have to spend an awful lot of money trying to fix them up.

I think in the 1970s, under Dave Packard's and Mel Laird's leadership, we went more to a fly before buy approach. I think we got some very good weapons in the F–16 and the F–18 and the F–14 and the F–15. Now that the threat is not as great as it was in the early 1980s, my main recommendation is to consider less concurrency in some of these weapons system programs, and to test them more before a final production, or a large production decision is made. It may raise the cost, but the compressed estimates, lots of times, are really misleading. You do not achieve them.

If you look at the B–1 bomber program, we had a very tight program. It looked like we could bring it in at a cost of $20-some billion. As it has turned out, we have had to spend a lot of money trying to fix that weapons system. I worry that when we go into the B–2, we might be following the same pattern that gave us some of the same problems as in the B–1 program. That is the issue we are raising.

Now, as far as program stretch-outs just to keep more program in the pipeline rather than making tough decisions, that is not what we recommend. In other words, I think there are two different categories. We feel it is worth stretching some programs to make sure they work, but we do not say stretch those programs just to keep all the programs in the FDYP, i.e., buying a lot of programs with very small numbers.

Chairman NUNN. In other words, if stretching-out is necessary in order to make sure a system is thoroughly tested before you go into large-scale production, then you would say fine, but if you are already in production, and it is not a matter of uncertainty as to whether it works, and you are simply stretching-out to keep everything alive rather than concentrating, then it is wasteful.

Mr. BOWSHER. That is wasteful, yes.

Chairman NUNN. Senator Warner?

Senator WARNER. Mr. Chairman, I will put my questions into the record.

We thank Mr. Bowsher and his associate. Having been associated with you now for 20-plus years, I know of your good faith and intent on everything you undertake. This is a tough one.

Mr. BOWSHER. Thank you very much.

Chairman NUNN. I am sure that in our Subcommittee on Strategic Forces and Nuclear Deterrence, we will be getting you to come back up and answer some detailed questions on the B–2. There are all sorts of questions on that that I had this morning, but our time is escaping. I know Senator Wirth has some questions.

Senator WARNER. The C–17 is an example, also. I happen to support that program, but there are some big costs involved in that, and they are right at the front end of their curve.

Mr. BOWSHER. That is correct, yes.

Chairman NUNN. Let me ask one final question before I turn to Senator Wirth. Have you done any kind of analysis of the Packard Commission report, and particularly this fly before you buy part of it?

Mr. BOWSHER. Yes.

Chairman NUNN. I know you did that in your statement here on three or four weapons systems, but has there been a comprehensive look at what they recommended about fly before you buy, and what we are in effect doing as we either heed or do not heed that report?

Mr. BOWSHER. Not as comprehensively as you might imply, Mr. Chairman.

We do have that information with respect to most of the major systems, however. We could compile that.

Chairman NUNN. Could you compile for this committee what we are doing in terms of following the Packard Commission outline on the way we buy weapons systems, particularly in regard to testing them thoroughly before we go into full- scale production? On the systems that you can, it would be helpful if you would furnish that to us.

Mr. BOWSHER. Yes, sir.

Chairman NUNN. And what should be done, also, in order to comply with it.

Mr. BOWSHER. Yes, sir.

[The information referred to follows:]

In 1985 the President's Commission on Defense Management, under Chairman David Packard, reviewed the acquisition process and recommended a return to more sequential acquisition practices. For example, the Commission concluded that the most reliable approach to procuring high-technology weapons systems was through developing and testing competitive prototypes before awarding a production contract. The Commission further recommended that prototype competition be applied to all major weapons and critical subsystems. It also recommended early operational testing in order to ensure that the design was satisfactory before beginning production.

We previously reported in November 1988, (*Status of Recommendations by Blue Ribbon Commission on Defense Management*, GAO/NSIAD–89–19F5), that the Defense Acquisition Improvement Act of 1986 directed competitive prototyping for all major systems/subsystems. In addition, it required that prototype testing be designed to reproduce combat conditions. According to DOD, the following actions have occurred in response to the recommendation:— The Defense Acquisition Board will review the prototyping strategy for each major system at milestone I.— DOD Directive 5105.41 revised the charter of the Defense Advanced Research Projects Agency to reflect the Commission's recommendations. Also, DOD Directive 5000.1,

Defense Acquisition Programs and Directive 5000.2, Defense Acquisition Program Procedures were amended to reflect the Commission's recommendations on prototyping, operational testing, and streamlined procedures.— The degree of stability in program funding.— The level of maturity of technology involved in the system.— The availability of adequate test assets, including facilities and ranges.— The plan for transition from development to production.

According to a DOD official, this report will not be ready until mid-April.

We are currently processing a report on the need for DOD to plan and conduct more timely operational test and evaluation. We point out that with proper planning, an operational test can and should be accomplished before production start-up. We found that although some prototypes have been used for development test and evaluation, the military services generally are not planning to use them for operational test and evaluation before production start-up. Our report should be issued in May 1990.

Additionally, for the last several years we have issued a report on the status of selected weapon systems. The reports generally address major weapon systems which are scheduled for an acquisition milestone decision for either full-scale development (milestone II) or full rate production (milestone IIIB). Cost, schedule, and performance of each system are discussed including any testing of the systems which may impact on the weapon system reliability, suitability, and effectiveness.

While I believe that DOD is attempting some steps forward in this area, it is imperative that the authorizing and appropriating committees continue their oversight of this important area to ensure compliance with the Commission intentions and implementing DOD directives.

Additionally, Section 802 of the National Defense Authorization Act for Fiscal Year 1990 and 1991 directed the Secretary of Defense to provide that a major defense acquisition program may not proceed beyond low-rate initial production until initial operational test and evaluation of the program is completed. Furthermore, the Act directed that operational testing of a major defense acquisition program may not be conducted until the Director of Operational Test and Evaluation of the Department of Defense approves in writing the adequacy of the plans for operational test and evaluation to be conducted in connection with that program. The Director, at the conclusion of such testing, shall prepare a report stating the opinion of the Director as to whether the test and evaluation performed were adequate, and whether the results of such test and evaluation confirm that the items or components actually tested are effective and suitable for combat. A final decision within the Department of Defense to proceed with a major defense acquisition program beyond low-rate initial production may not be made until the Director has submitted to the Secretary of Defense the report with respect to that program, and the congressional defense committees have received that report.

The National Defense Authorization Act for Fiscal Year 1990 and 1991, Section 801 directed the Secretary of Defense to submit a report by March 1, 1990, outlining the risk associated with concurrency for each major defense acquisition program that is in either full-scale development or low-rate initial production as of January 1, 1990.

The report is to include consideration of the following matters with respect to each such program:— The degree of confidence in the enemy threat assessment for establishing the system's requirements.— The type of contract involved.

Chairman NUNN. Senator Wirth?

Senator WIRTH. Thank you very much, Mr. Chairman. Mr. Bowsher, Mr. Conahan, we really appreciate your excellent work. As ever, it is an enormous service, not only to the Congress but I believe to the country.

I was, just as a beginning, struck with your opening analysis about the overall debt and the masking of the Federal deficit with trust funds.

I think that everybody ought to have an indication of what I would call the fraud that we are perpetrating on the American public now. People are talking about the deficit shrinking. In fact, it is almost, as I read your testimony, almost $300 billion a year, if you measure the deficit by how much money we have to borrow. I mean, that is what my household's deficit is. How much I borrow,

or do not borrow, not the phony bookkeeping to which you refer in your testimony.

Mr. BOWSHER. I also made a point, Senator, that if we keep going on the glide path that we are going now, with these real deficits up in the high $200 billion, we are going to hit a debt of $4.5 trillion and we are going to see the interest costs become the biggest item in the Federal budget.

Senator WIRTH. Interest costs will become bigger than defense spending, bigger than Social Security.

Mr. BOWSHER. Easily, yes. It has already passed Social Security. Last year, Social Security was $227 billion, if I remember right, and interest is $240 billion in fiscal year 1989.

Chairman NUNN. What is it going to be now?

Mr. BOWSHER. According to CBO, in the mid-1990s it could get as high as $335 billion.

Senator WIRTH. For which we get nothing.

Mr. BOWSHER. You get the opportunity to pay it next year. In other words, that is interest.

Senator WIRTH. This is really a startling set of figures. The debt is how much we borrow this year, not what we were told the other night, that the deficit was going to be gone in the early 1990s.

The deficit as it has been defined by the phony bookkeeping might be gone with more phony bookkeeping, but even at that point we are going to be borrowing hundreds of billions of dollars, correct?

Mr. BOWSHER. That is correct. As I pointed out to the Senate Finance Committee a week or two ago, last year I took the numbers to the new Secretary of Treasury, new Director of OMB, and I took the official numbers for 1976 and 1980, that President Carter and President Reagan were showing, and you always look like you are going to balance the budget in 2 or 3 years. The truth of the matter is it is only because of the way you keep the books.

Senator WIRTH. Second, going to your specifics on the Defense Department budget, the attack has been made that, who would have guessed a year ago all of the changes in Central and Eastern Europe, so therefore give us a break.

On the bow wave, we knew about this—you came and told us about this last year, you came and told us about it the year before. The bow wave issue has been out there.

Mr. BOWSHER. Yes. It has been out there, really, since 1985–1986.

Senator WIRTH. In order to stay with the budget requested by President Bush over a 5-year period of time we have to cut $137 billion. That is just to conform to where we are now projecting our defense budget to be.

Mr. BOWSHER. That is correct.

Senator WIRTH. No peace dividend.

Mr. BOWSHER. No.

Senator WIRTH. Just the budget the President presents, which I think everybody—or almost everybody—agrees is much too high. So we are going to have to cut approximately $28 billion a year, the equivalent of that, is that right? $28 billion a year, to get us to $137 billion.

Mr. BOWSHER. That is also on the assumption that they get these other savings that are planned, and as we pointed out today, you

need some real management action and some real follow-up to achieve the last $24.7 billion and even the $22.8 billion. So you have got $50 billion there on top of the $137 billion that you really need some good action and some good follow-up or you might be looking at $180 billion.

Mr. CONAHAN. Let me clarify that number. That $137.9 billion really applies to the 3-year period 1992 to 1994 and not to the 5-year period, because the reductions have been made for the 1990 and 1991 year. So you are talking about cutting closer to $40, $45 billion each year.

Senator WIRTH. What you are telling us, Mr. Conahan, I do not think very many people understand. I can guarantee you they do not—that just to conform to the Bush budget, which a very large number of people feel is artificially inflated for other reasons I am going to get to, but just to stay even with the Bush budget as presented to the Congress, we are going to have to cut about $45 billion a year, at least $45 billion. Probably, if you add in the $22 and $24 billion anyway, that gets us closer to $60 billion, is that correct?

Mr. CONAHAN. With your addition, yes, sir.

Senator WIRTH. With the addition of the $22 billion and $24 billion, we have to cut, if those are included in we are going to have to cut $180 billion over the next 3 years.

That means, just to stay even we have to cut—to extrapolate on that—just to reach the Bush budget we have to cut $60 billion a year out of the defense budget, is that right?

Mr. BOWSHER. That is about right.

Mr. CONAHAN. Yes, but one needs to say that the Secretary has taken out of the 1991 budget and made some adjustments to the 1990 budget that reduces it to that number that is on the board—$137 billion—so overall it is $180, but he has already taken the difference out.

Senator WIRTH. Then to be generous, to be easy on us, just to stay even we have to cut at least $44, $45 billion a year for the next 3 years. Is that correct? No disagreement on that?

Mr. CONAHAN. That is correct.

Mr. BOWSHER. Yes.

Senator WIRTH. At a minimum, we are going to have to cut $45 billion a year out of the defense budget over the next 3 years?

Mr. CONAHAN. Yes, sir.

Senator WIRTH. Now, let me come to a second issue if I can, and that is sequester. What I want to do is to look down the line at the kinds of problems we are looking at, and we are eventually going to get the peace dividend, if I might, Mr. Chairman.

If sequester arrives, and the scenario that many of us believe is going to happen is that the Administration will continue—you do not have to comment on this—but that the administration will continue to come up with this high figure of $300 billion. It will continue to encourage the "logjam" in the budget process so that in September we are looking over the precipice and get to sequester.

At that time, under sequester the Administration will have to knock off a certain amount of defense spending, which they know now they are going to do anyway, so that will occur, but sequester will also force a very significant reduction in domestic spending.

I think they are walking us right into sequester, which is going to be cuts in defense they want anyway, and then very dramatic cuts on the domestic side—that I think is happening. You do not have to comment on that, but I want to get some figures from you.

If we were to get to sequester in September or the 1st of October, or whenever the magic date is, how big would that sequester be on the defense side and how big would that sequester be on the nondefense side?

Mr. BOWSHER. I do not think I have that figure with us. I think that we would have to go back and calculate that figure.

Senator WIRTH. Mr. Conahan, do you know?

Mr. CONAHAN. No, I do not have it.

Senator WIRTH. Well, the ball park as I remember from Budget Committee deliberations is that a sequester would be about $12 billion cuts in defense and about $18 billion cuts on the domestic side. I might ask any staff members if they might correct that as a general ball park. We do not have to be absolutely accurate on this.

Say it is about $12-$15 billion in defense, $18-20 billion on the domestic side.

Chairman NUNN. That is outlays.

Mr. BOWSHER. That is right, in outlays, which is an important point.

Senator WIRTH. Well, let us make sure we are adding—we are comparing apples and oranges here. Let us go back to the apples, before we get to the sequester oranges.

Mr. Chairman, my time has expired, may I continue?

Chairman NUNN. Go ahead. I have had my time.

Senator WIRTH. I want to try to flesh this out. I appreciate your indulgence.

Let us go back to the apples side. Is this authority, or is this outlays that we are talking about here?

Mr. BOWSHER. This is authority.

Senator WIRTH. How does that then translate into outlays?

Mr. BOWSHER. Well, now you have got to keep this in mind. When you are translating, you do it by appropriations, and if you have military personnel and O&M, its 90-plus percent. I mean, TOA translates into expenditures in the first year.

If you talk about appropriations for shipbuilding or for aircraft, they all have different percentages. So what it means is, you have to kill a lot of programs to get to the outlay targets.

Senator WIRTH. What has been about a 10-year average of the relationship of outlays to authorization? If it is 90 percent on personnel and readiness, what is it across—say overall, what is a general rule of thumb, so that we can translate this 137 set of apples into the same numbers as we are talking about in sequester, to make a parallel so people here can understand how big the numbers have to be in terms of cuts to achieve the goals that we have to achieve?

Mr. BOWSHER. I do not think I could give you an overall percentage because you really have to do it by these appropriations and then work that. We could supply that for the record.

Senator WIRTH. As a general guess, is it 60 percent of the authority figure, do you think is going to translate into the outlays we are going to have to cut? I am just trying to get—if I were to go out on the floor of the Senate——

Mr. BOWSHER. Maybe some of your experts back here might give us that information.

Senator WIRTH. if I were to go out on the floor of the Senate and try to explain to people, you know, what this means in terms of outlays, what would I say, Mr. Bowsher?

Mr. BOWSHER. I wish I could give you that number offhand, and I cannot.

Mr. CONAHAN. I think you can say this. All but about $90 billion of the $300 billion budget will spend out within a year or shortly thereafter. The $90 billion will spend out somewhere between 3 to 5 to 7 years.

Senator WIRTH. Okay. We were talking earlier about the need to cut $45 billion in authority, that is certainly at least $30 billion in outlays. If two-thirds of the $300 billion spends out in a year, we are talking about at least cutting $30 billion in outlays, then the other part add to that probably another $5 billion anyway.

Mr. BOWSHER. At least.

Senator WIRTH. So probably as a general rule of thumb, to translate the $137 billion into outlay numbers, we are talking about the cutting just to stay even of at least $35 billion in outlays. Is that a fair statement?

Mr. BOWSHER. That is probably in the ballpark.

Senator WIRTH. I mean we are not looking for total accuracy,but plus or minus 10 percent, we are very close. Do you think that is right?

Mr. BOWSHER. Yes.

Senator WIRTH. Okay. We have got apples. Now, we are going to compare apples and apples. We know that we have to cut about $35 billion in outlays annually just to get to the Bush budget top line. Now we want to sequester. This fall we could be required to cut another $15 billion, $12-$15 billion in defense outlays in order to meet the Gramm-Rudman targets, is that not correct?

Mr. BOWSHER. Yes, depending on the mid-session review

Senator WIRTH. So, this year what you are telling us is that we are going to have to cut $47 to $50 billion in outlays in order to meet the Gramm-Rudman target, is that right?

Mr. BOWSHER. Well, I suspect the way they would do it—and this is the dilemma that you are facing—is they would meet the current sequestered targets and then try to figure out the outyear impact. There is a reluctance to make the tough decisions.

Senator Wirth: In other words, we would cook the books for the——

Mr. BOWSHER. We would cook the books and we would push that bow wave out.

Senator WIRTH. And fraudulently account for the outyears?

Mr. BOWSHER. If we would push for——

Senator WIRTH. You are telling us if we were doing this thing honestly with real bookkeeping, the kinds of adding and subtracting that every American household has to do—if we were doing it honestly, we would this year have to cut $45- $50 billion in outlays out of defense to meet the Gramm- Rudman target. Is that a fair statement?

Mr. BOWSHER. That is a fair statement.

Senator WIRTH. Mr. Conahan, do you agree with that?

Mr. CONAHAN. If your base is the most recent 5-year defense plan which is our understanding.

Senator WIRTH. But that is what we are operating on.

Mr. CONAHAN. Keeping in mind now that the Secretary has already proposed half of that.

Chairman NUNN. The minority staff wants to be heard on this point to the extent that they disagree with the arithmetic. I believe what is happening is you are adding this sequestered number into the cut number instead of crediting this sequestered number against it. When you sequester, you are going to reduce the amount of cuts that are necessary.

Senator WIRTH. With all due apologies, Mr. Chairman, this is just to stay even. This is just to stay at the current level of defense expenditures, and Gramm-Rudman requires cuts below the current level of defense expenditures. So sequestered cuts do not give you credit against this number, I do not think. Do they, Mr. Bowsher?

Mr. BOWSHER. Well, it depends on when they do the sequester cut. What they have got to do is roll those into the 5-year defense plan, which they have not been doing in recent years on a timely basis. That is what they should do. Then you would have to see whether you are below or above the target and the chances are you would still be above the target. Then you would have to cut the additional money to get down to the target. That is the way it should be done.

Senator WIRTH. We are boxed now on at least two sides. We are boxed on the side of the bow wave and the need to cut very significantly at least $45 billion in BA a year for 3 years or approximately $35 billion in outlays to hit the Bush defense top line.

Then we have, as I understand Gramm-Rudman, we have to cut below that to meet the Gramm-Rudman targets, which is going to be another $12 billion. So we are looking at no matter how you cut it some very significant real cuts.

Mr. BOWSHER. That is a very fair statement.

Senator WIRTH. And we do not play games with this. We do not do cook the books anymore like we are cooking them on Social Security. We do not cook the books anymore. We have got to cut at least $35 billion—closer probably to $45 billion in outlays to honestly say we are meeting the Gramm-Rudman target.

We have got two pieces of this triangle that is surrounding us—I will not say a box—a triangle because the third part, Mr. Bowsher, is the political pressure that we all are very familiar with for a "peace dividend."

The American public, my constituents and everybody else's constituents are very eager for us to be cutting defense to the point that we have some money left over that can either go to the deficit or some would say go to the capital gains tax reduction or others would say go to investments in education and infrastructure and so on.

The expectation is that we are going to have a peace dividend, and I have heard dozens of speeches on the floor of the Senate in which my colleagues have spent that peace dividend many, many times over. We have all heard those.

Now, if we have the bow wave side of the problem and the sequester side of the problem, it is going to be very difficult, it seems

to me, to reach the expectations of people to achieve a peace dividend. is that fair to say, to get any peace dividend and to be honest, we have to cut more than $45 billion a year in outlays. Is that a fair statement?

Mr. BOWSHER. As I said earlier, you do not get the savings in the first year or two when you make these decisions. In other words, when you are making decisions on redeploying troops, closing bases and things like that, you have costs in the first year or two. So, you have a very tough situation here, it seems to me, in achieving this peace dividend in the first year or two.

I think the peace dividend is going to come, if it can be achieved, in the third to fifth year. That was our experience as we came down out of the Vietnam war, and I think it will be the experience again here.

So, getting these savings in the first year or two of reducing forces is very difficult, and that is going to complicate the expenditure targets of a sequester.

Senator WIRTH. What you are really telling us is that the popular political expectation of a peace dividend anytime between now and 1992 is going to be extraordinarily difficult and probably impossible, is that right? That we have extraordinary difficulties is certainly the case.

Mr. BOWSHER. I have no qualms about agreeing with that. That is right.

Senator WIRTH. Well, Mr. Chairman, I am sure that maybe some of our colleagues on the other side will have arguments with those numbers, but if we are going to be honest about this—which we have not been in the budget overall and in defense budgeting because we have pushed all of this into the future—if we are going to be honest, we are not going to have a peace dividend. That is what you have been telling us for a long time.

If we are going to be dishonest and play games with it again, we can pretend that we have a peace dividend and probably ransom further generations even more.

Mr. BOWSHER. If I could even complicate it a little more and even put some more cold water on it, and that is, if you go through 2 or 3 years of sequester, it is going to be a very, very difficult period trying to keep a defense program in good balance, it seems to me.

Senator WIRTH. It sounds to me like it is and at the same time the investments that many of us would like to see us making elsewhere are going to be exceedingly difficult.

The only way, then, out of this box is one, to do as the Chairman has so eloquently described and what you are talking about in your testimony, to really think through what our posture ought to be around the world, but also do that with the very clear understanding that we do not have very much money with which to implement that unless we want to go ahead and borrow a lot more money.

Mr. BOWSHER. That is right.

Senator WIRTH. And finally, what I would like to do again, Mr. Chairman, is to suggest that what we ought to be thinking about is that we do not know exactly what this posture is going to be. It is going to take a long while for us to work through, but we ought to be setting some kind of targets, it seems to me for ourselves.

One of the useful things to do is to try to discipline ourselves by setting goals or setting targets, and one of the targets that we certainly, it seems to me, could set for ourselves is that we at least ought to go back to the norm of what we have spent since World War II; that we ought to, over that same period of time, ought to be setting as a goal that we get defense expenditures back to the norm which is a little more than $200 billion a year, with exception of Korea, the exception of Vietnam and the major buildup in the 1980s, we have on defense expenditures in constant 1991 dollars spent about a little bit more than $230 billion a year.

Now, it would seem to me that that is not a perfect way of doing this, but just to give us a sense of what reality is, we ought to be thinking about setting a goal and this is a Cold War goal, in fact.

We have spent $200-plus billion a year for 40 years with the Cold War going on. The Cold War is now over. Granted the world has changed and we are going to have different needs, but it would seem to me to be prudent and perhaps necessary for us to be saying right away while we are going through this whole discussion of defense expenditures and having to cut so dramatically and while we are reformulating our thinking about our role around the world, let us also understand that this might be a realistic goal or perhaps a milestone for us to be thinking about is to return our expenditures down to the pre-Reagan level or down to the norm of what we have done since World War II, that that would give us a chance to rid ourselves of the bow wave, take care of the defense cuts that we at least have to do for sequestration, and maybe have something left over for the investments that people want to make elsewhere.

Do you follow all of that?

Mr. BOWSHER. Yes, I think I do.

And I think what you are advocating, on the defense side, is what we have been advocating and proposing on the overall budget. In other words, you need a long-term plan, about a 5-year plan on all the major areas and to try to get that down to some level that the revenue side, excluding the trust funds, can cover so we do not keep adding to the debt and to the interest cost. That is what is really badly needed.

Senator WIRTH. I appreciate that. I thank you very much, Mr. Bowsher. I just have been raising that figure of $200-plus billion or the 40-year norm. It seems to me that is a ballpark. If we learn anything from history, what have we spent historically. That is a budget that was something that we did during the Cold War that was going on for 40 years.

Let us at least assume that that might be one kind of a realistic goal absent any other ones, and to try to discipline ourselves in the face of that.

Mr. BOWSHER. If I could make a suggestion, Mr. Chairman, and that is to let us go back and work up the numbers with the sequester as part of it and provide that to the committee in addition to the numbers we have here on the bow wave.

Chairman NUNN. I think that would be very helpful.

Senator WIRTH. I think we ought to know this and not have disagreement on the committee over what the numbers are.

Chairman NUNN. That would be very helpful.

[The information referred to follows:]

A Gramm-Rudman sequestration, based on the administration's baseline deficit estimate in the January 1990 budget, would require a $5.6 billion reduction from the $295.1 billion in DOD's current request for budget authority for fiscal year 1991. However, further reductions may be required, if the administration's July 15, 1990 mid-session review of the 1991 budget changes the deficit estimate to a level that approaches current Congressional Budget Office (CBO) projections.

CBO's most recent deficit estimates are considerably higher than the administration's current projections. This is partly due to CBO's less optimistic economic growth and interest rate assumptions and revised estimates for the savings and loan crisis. If the administration's estimates reflect these costs, DOD's fiscal year 1991 budget request would likely be further reduced to avoid a Gramm-Rudman sequestration.

To meet the Gramm-Rudman deficit reduction target using CBO's revised estimates, DOD's budget outlays would have to be reduced by about $40 billion. That is assuming no increases in revenue and that half of the reductions are in defense. A $40 billion dollar outlay reduction equates to about $65 billion in budget authority. That is assuming it takes on average a reduction of one dollar in budget authority to deduce budget outlays by about 60 cents.

A $65 billion reduction in DOD's budget authority—from $295.1 billion to $230.2 billion—would make DOD's fiscal year 1991 total budget authority slightly higher than the fiscal year 1980 level, in constant dollars.

Additional budget reductions needed to meet Gramm-Rudman deficit targets for fiscal years 1992–94 cannot be estimated with a satisfactory degree of confidence because of the many variables and uncertainties involved, such as spending and revenue assumptions and the outcome of actions on the previous year's budget.

If further reductions are made in DOD's budget authority beyond the amounts currently estimated by the administration under the Gramm-Rudman sequester, the most immediate outlay savings will come from reductions in the military personnel and operation and maintenance accounts, which spend out primarily in the first year. Procurement accounts spend out slowly over 6 years or more. For example, 95 percent of the military personnel accounts spend out during the first year compared with only 15 percent of procurement dollars.

Despite the declining trend in defense funding since 1985, the annual cost of DOD's major weapons programs is increasing. DOD projects that these programs will increase as a percentage of the total procurement budget, from an estimated 43 percent in 1990 to 55 percent in 1993. The planned annual cost for the 100 largest systems is scheduled to increase from about $35 billion in fiscal year 1990 to about $45 billion in fiscal year 1993.

It would cost approximately $370 billion to buy out the 100 largest defense weapons programs currently in development and production. This does not include the costs associated with highly classified "black" programs, such as the B–2 bomber and the Advanced Tactical Aircraft. Although data are not available to determine the annual outyear cost projections for these highly classified programs, the remaining outyear cost will be substantial since many of these programs have not yet entered full-rate production.

We understand that DOD is considering substantial reductions in its spending plans. However, DOD needs to reduce its spending plans by $137 billion just to meet the 1990–94 levels contained in the January 1990 budget submission. In making further budget reduction decisions, DOD will need to address the affordability of its major weapons programs. Continued high levels of funding for these programs will require larger and potentially more disruptive reductions in other accounts, such as personnel and operations and maintenance.

Senator WIRTH. If you could take the bow wave numbers and the sequester numbers and see how we package those together and what does that mean for us if we are going to be honest budgeters. That might be an oxymoron.

Mr. Chairman, I thank you very much for your patience during that very lengthy discussion with Mr. Bowsher. I think these people are just terrific, and I think again, as I said before, you do a very great service not only to this institution, but to the American public. Your honesty is refreshing.

Mr. BOWSHER. Thank you very much.

Chairman NUNN. Thank you very much, Senator Wirth.

Mr. Bowsher, Mr. Conahan, we thank you for being here. We will be working with you in the future as we have in the past. You have been very helpful to us this morning as always. Thank you so much.

Mr. BOWSHER. Thank you very much, Mr. Chairman.

[Questions for the record with answers supplied follow:]

-4-16-90

GAO RESPONSE TO QUESTIONS
ASKED BY SENATOR NUNN

QUESTIONS

SUBSEQUENT TO THE SEQUESTER OF FUNDS FOR FISCAL YEAR 1990, THE DEPARTMENT OF DEFENSE PROPOSED TO TRANSFER $850 MILLION FROM PROCUREMENT AND R&D ACCOUNTS TO MILITARY PERSONNEL ACCOUNTS.

WOULD THIS MEAN THAT DOD WOULD NOT BE MAKING MOST OF THE OUTLAY SAVINGS THAT IT WAS SUPPOSED TO MAKE UNDER THE TERMS OF THE FY 1990 SEQUESTER?

GAO RESPONSE: The procurement and R&D accounts are slow-outlay accounts. Only 10 to 15 percent of the budget authority in these accounts is expected to be outlayed during fiscal year 1990. The military personnel accounts, however, are fast-outlay accounts. Most of the budget authority in these accounts is expected to be outlayed during fiscal year 1990. Therefore, the proposed transfer of funds from procurement and R&D to personnel would result in a significant decrease in the outlay reduction from the fiscal year 1990 sequester.

QUESTION

ARE YOU AWARE OF ANY OTHER AGENCY THAT IS ATTEMPTING TO AVOID THE IMPACT OF THE SEQUESTER IN THIS WAY?

GAO RESPONSE: We are not aware of any other agency that is attempting to minimize the effects of the sequester by proposing transfer of funds between accounts.

QUESTION

ON MARCH 6, 1990, THE COMPTROLLER GENERAL ISSUED TO THE CONGRESS HIS REPORT ON THE PRESIDENT'S THIRD SPECIAL IMPOUNDMENT MESSAGE FOR FISCAL YEAR 1990. GAO/OGC-90-4 (b-237297.3, MARCH 6, 1990). IN THAT REPORT THE COMPTROLLER GENERAL CONCLUDED THAT THE BULK OF THE DEFERRALS REPORTED IN THE PRESIDENT'S MESSAGE WERE UNAUTHORIZED.

COULD YOU PROVIDE THE COMMITTEE WITH A COPY OF YOUR RULING FOR THE RECORD, AND COULD YOU EXPLAIN TO US THE REASONS BEHIND YOUR POSITION?

GAO RESPONSE: A copy of the March 6, 1990, report is attached. Our position was based on our conclusion that in announcing these deferrals the Administration was attempting to substitute its own priorities and policies for those established by the Congress in the appropriation process. This type of "policy" deferral is not authorized by the Impoundment Control Act of 1974, as amended. The factors we relied on in reaching this conclusion were 1- the lack of adequate justification for the deferrals; 2- the fact that the brief justification given could equally apply to many programs the funds for which were not being withheld; 3- in some cases, the deferrals were connected to proposals in the Administration's fiscal year 1991 budget that the funds be transferred to other accounts to be used for other purposes in the next fiscal year; and 4- in some cases, the Congress had already considered the Administration's arguments and nonetheless had decided to fund the program.

Comptroller General
of the United States

Washington, D.C. 20548

B-237297.3

March 6, 1990

To the President of the Senate and the
Speaker of the House of Representatives

On February 6, 1990, the President submitted to the Congress his third special impoundment message for fiscal year 1990 covering 19 deferrals of budget authority. We concluded in a letter dated February 20, 1990, to the Honorable Robert C. Byrd and Mark O. Hatfield of the Senate Appropriations Committee that 14 of these deferrals and a portion of a fifteenth deferral are not authorized under the Impoundment Control Act of 1974, as amended, 2 U.S.C. § 681 et seq. We have now concluded that the remainder of the fifteenth deferral and two other deferrals are also unauthorized. One deferral is authorized and we are in the process of ascertaining the justifications for another concerning a classified project. Enclosure I provides specific information with regard to 10 of the deferrals, which we believe will be useful to the Congress in its examination of the message. Enclosure II provides a list of the deferrals as reported by the President.

BACKGROUND

Section 1013 of the Impoundment Control Act, as amended in 1987 by Public Law 100-119, 101 Stat. 754, permits the President to defer budget authority for only three purposes:

> "(1) to provide for contingencies;
>
> "(2) to achieve savings made possible by or through changes in requirements or greater efficiency of operations; or
>
> "(3) as specifically provided by law."

2 U.S.C. § 684(b).

To place all 19 deferrals in perspective, we think it useful to discuss the evolution of the law which resulted in this provision, particularly recent changes resulting from the United States Court of Appeals decision in City of New Haven v. United States, 809 F.2d 900 (D.C. Cir. 1987).

Before enactment of the Impoundment Control Act of 1974, the President asserted, both on constitutional and statutory grounds, the authority to impound budget authority for "policy" reasons. At the time, the Antideficiency Act authorized the establishment of reserves either to provide for contingencies or to effect savings made possible by (1) changes in requirements, (2) greater efficiency of operations, or (3) "other developments subsequent to the date on which such appropriation was made available." 31 U.S.C. § 665 (1976).

The executive branch maintained that in order to effect savings made possible by "other developments," the President could defer budget authority for "policy" reasons inimical to the purpose to be served by the appropriation being withheld. This Office and the courts held that the executive branch position was inconsistent with the legislative history of the Antideficiency Act as well as prior executive practice. See Letter from the Comptroller General to Chairman, Subcommittee on Separation of Powers, Committee on the Judiciary, United States Senate, B-135564, July 26, 1973, and cases cited therein. Nevertheless, the then existing Administration did not abandon its claim of authority.

As a result, in 1974 when the Congress enacted the Impoundment Control Act, it also amended the Antideficiency Act to make clear that it could no longer be claimed as authority to make policy deferrals. Thus, the Impoundment Control Act amended the Antideficiency Act by deleting the authority to establish reserves to effect savings made possible by "other developments." See Pub. L. No. 93-344, 88 Stat. 332 (1974).

The objective of the amendment was to assure that "the practice of reserving funds does not become a vehicle for furthering administration policies and priorities at the expense of those decided by Congress." S. Rep. No. 688, 93rd Cong., 2nd Sess., 75 (1974) (emphasis added). The legislative history of the amendment makes clear that it is "perfectly justifiable and proper for all possible economies to be effected and savings to be made. But there is no warrant or justification for the thwarting of a major policy of Congress by the impounding of funds." Id. citing H.R. Rep. No. 1797, 81st Cong. 2d Sess., p. 311 (1950).

The amendments to the Antideficiency Act in affirming the President's authority to make routine deferrals, specified that "[e]xcept as specifically provided by particular appropriation acts or other laws, no reserves shall be established otherwise than by" the Antideficiency Act. Pub. L. No. 93-344, § 1002, 88 Stat. 332 (1974). Notwithstanding the Antideficiency Act or other authority, deferrals were required to be reported under section 1013 which provided for either House of Congress to disapprove any deferral--a so-called legislative veto.

In 1987, the United States Court of Appeals for the District of Columbia Circuit invalidated section 1013 of the Impoundment Control Act because of the unconstitutional legislative veto provision in that section. City of New Haven Connecticut v. United States, 809 F.2d 900 (D.C. Cir. 1987). By invalidating section 1013, the court removed the sole general legislative authority for "policy" deferrals. The court stressed that were it to let section 1013 stand and merely to sever the unconstitutional one-House veto provision from the section, it would have given the President a license to defer for policy reasons without any congressional control. Id. at 909. This would have created a situation which required the Congress to legislate a second time to effect and reconfirm its budgetary policies already set out in appropriation acts. Id. The court reasoned that such a result would have been completely contrary to the will of Congress, which in amending the Antideficiency Act sought to "remove any colorable statutory basis for unchecked policy deferrals." Id. At the same time, however, the court upheld the President's

authority to defer funds under the Antideficiency Act, that is, for "routine programmatic impoundments," and his responsibility to report such deferrals. Id at 906, 909.

In response to the New Haven decision, Congress in 1987 enacted a new section 1013 that permits deferrals only for Antideficiency Act reasons, i.e., contingencies, savings, or as specifically provided by law. Pub. L. 100-119, 101 Stat. 754 (1987). Since the 1987 amendment of section 1013, until the deferrals at issue here, we have not had occasion to object to any deferrals reported by the President as Antideficiency Act deferrals. Accordingly, we think a review of the characteristics of a valid deferral is in order.

First, the deferral must be a temporary withholding. Second, the reasons for the deferral must be fully explained. Section 1013 requires that the President report every deferral to the Congress in a special message that provides detailed information concerning the basis and effect of the deferral, including:

> "(6) all facts, circumstances, and considerations relating to or bearing upon the proposed deferral and the decision to effect the proposed deferral, including an analysis of such facts, circumstances, and considerations in terms of their application to any legal authority, invoked to justify such proposed deferral . . . ."

2 U.S.C. § 684(a)(6).

In our opinion, one of the purposes of this reporting requirement is to permit Congress to determine whether a deferral is, in fact, a proper exercise of the President's authority under the Act. Indirect or generalized assertions that fail to provide a discernible nexus between the proposed deferrals and the asserted reasons therefor are not sufficient.

Finally, the executive branch may not defer for "policy" reasons. Deferrals intended to further executive branch policies or priorities in place of those policies established in the legislative process are, absent specific statutory authority, unauthorized deferrals.

ANALYSIS OF DEFERRALS OF FISCAL YEAR 1990 FUNDS

Although the special message does not so indicate, the Administration in its budget for fiscal year 1991 has proposed that the Congress transfer amounts in 16 of the deferrals, totalling $1,359,050,000, to finance other programs in fiscal year 1991. Of these funds, the Administration has proposed $860,300,000 for transfer to the appropriation "Procurement of Weapons and Tracked Combat Vehicles, Army," for the M-1 tank program. The Administration also proposes that Congress transfer the remaining $498,750,000 to the appropriation "Aircraft Procurement, Air Force," to fund the F-15 aircraft program. Budget of the United States Government, Fiscal Year 1991, at A-577 and A-583 (1990).

In our opinion, dated February 20, 1990, we concluded that 15 of these deferrals, totalling $1,251,050,000, were unauthorized1/ and explained that we were continuing to gather information on deferral D90-23 and one other that is classified for national security purposes.

The Administration's entire explanation of the 15 deferrals in question is that they are necessary because of "changes in requirements in view of the promising developments in the Soviet Union and Eastern Europe." This is not the detailed, reasoned explanation for the deferrals which section 1013 requires. It is no more than a generalized assertion that provides no direct nexus between the proposed deferrals and the asserted reasons for them. For example, in deferral D90-18, the President has deferred $181,700,000 of funds appropriated in the lump-sum "Aircraft Procurement, Air Force," and intended for MH60-G helicopters and F-4G aircraft. The only justification advanced is that the deferral is necessitated by changed requirements brought about by "promising developments in the Soviet Union and Eastern Europe." The justification fails to explain how the promising developments affect the requirement for these two weapons systems.

Deferral D90-24 is a more dramatic example of the same point. There the President has deferred $3,200,000 in funds appropriated for "Military Construction, Army, because of the same "promising developments in the Soviet Union and Eastern Europe." The funds were provided for construction of an access road at the Tobyhanna, Pennsylvania, Army Depot. The justification does not explain how the events in the Soviet Union and Eastern Europe relate to, let alone justify, the decision to defer funds for construction of an access road in an Army Depot in Pennsylvania.

All the other deferrals at issue similarly fail to provide an adequate justification directly and specifically relating to the changes in East-West relations to the requirements for the funds that are being deferred. The level of generality used to explain these deferrals could be employed across a wide range of Department of Defense accounts suggesting that the choice of activities and programs being deferred relates less to routine operation of the government

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1/ The 15 deferrals are D90-10, OV-1D Aircraft modifications; D90-12, M483 155 mm Artillery Projectile; D90-13, Termination of Echelon Above Corps; D90-15, HARM Missile, Navy; D90-16, Fast Sealift Ships; D90-18, MH-60G Helicopter and F-4G Wild Weasel; D90-19, HARM Missile, Air Force and Minuteman II modifications; D90-20, Combined Effects Munitions; D90-21, National Guard Reserve Equipment, Defense; D90-23, Research, Development, Test and Evaluation, Defense ($13 million for Defense Advance Projects Research Agency software efforts); D90-24, Military Construction, Army; D90-25, Military Construction, Navy; D90-26, Military Construction, Army National Guard; D90-27, Military Construction, Air National Guard; D90-28, Military Construction, Army Reserve.

than to executive policy choices concerning activities that should or should not be funded.

In addition, as we noted earlier, the President has proposed the deferred funds for transfer to the M-1 tank and F-15 aircraft programs. The generalized assertions that are the basis for the deferrals could be equally applicable to the M-1 and F-15 programs, adding support to the view that the deferrals are intended to substitute the President's priorities and policies for those already enacted in appropriations acts.

Further, our examination of the Administration's budget requests and the committee reports accompanying the fiscal year 1990 Defense appropriation act indicates that most of the deferrals involve appropriations that were not requested by the Administration but rather were added by the Congress during the legislative process. The President's choice to defer these appropriations rather than others to which the justification for the deferrals appears to be equally applicable is further evidence that the deferrals are for reasons of policy.

Thus, the cryptic explanation that has been given for the deferrals proposed here, together with the intended uses planned for the amounts deferred, makes these deferrals highly suspect. Without a sufficiently detailed explanation underlying the deferrals, there is no basis for concluding that they fall within the limitations of the Act. We conclude on the basis of the present record that these deferrals totalling $1,251,050,000 dollars, are not authorized under the Impoundment Control Act.

In addition to these deferrals, the President's message proposed other deferrals totalling $942,800,000.

D90-22

Research, Development, Evaluation and Testing, Air Force
Amount Deferred: $100,000,000
570/13600

The details associated with this deferral are classified and require special access. GAO is currently in the process of obtaining the specific facts and justifications associated with this deferral. Our report on this deferral will be issued under a separate classified cover.

D90-23

Research, Development, Test and Evaluation, Defense Agencies
(University Research Projects)
Amount Deferred: $21,000,000
970/10400

Eight million dollars out of the $21,000,0002/ were provided for university research grants. In its justification the Administration states that the university funds cannot be obligated due to "legal constraints and competition policy considerations pursuant to section 252 of the FY 1991 National Defense Authorization Act."

2/ The remaining $13,000,000 deferred in this account was included in the 15 deferrals we held improper above.

In the National Defense Authorization Act, fiscal year 1989, Congress added a competition requirement for the award of grants to colleges and universities. Pub. L. No. 100-456, § 220, 102 Stat. 1940, codified at 10 U.S.C. § 2361 (1988). The statute prohibited the Secretary of Defense from making a grant or awarding a contract to a college or University for the performance of research and development or construction of any research or other facility unless competitive procedures were used. Id. The provision became effective on October 1, 1989. The requirement for competitive procedures was elaborated in the National Defense Authorization Act for 1990 and 1991, wherein the Congress amended 10 U.S.C. § 2361 to state:

> "The Secretary of Defense may not make a grant or award a contract to a college or university for the performance of research and development or for the construction of any research or other facility unless-
>
> "(1) in the case of a grant, the grant is made using competitive procedures; and
> "(2) in the case of a contract, the contract is awarded in accordance with section 2304 of this title . . . ."

Pub. L. No. 189, § 252, 103 Stat. 1404 (1989).

The amendment was made retroactive to September 30, 1989 and provided that later legislation could supersede it only by specific reference. Id. This amendment was meant to clarify Congress' intent regarding competition requirements and to discourage legislative or executive branch earmarking in awarding university or college research grants thus ensuring full and open competition except in very limited circumstances. See H.R. Rep. No. 331, 101st Cong., 1st Sess. 532 (1989). The conference report accompanying the the 1990 Defense appropriation act enacted after September 30, 1989, clearly states that the $8,000,000 at issue here was meant for a grant for the proposed center for Commerce and Industrial Expansion at Loyola University of Chicago. H.R. Rep. No. 345, 101st Cong., 1st Sess. 122 (1989). However, there is no language in the appropriation act itself which would supersede 10 U.S.C. § 2361. Thus, although the conference report indicates an intention that the funds be granted to Loyola, the law requires that the grant be made using "competitive procedures."

Nevertheless, the Department's argument that 10 U.S.C. § 2361, as amended, justifies withholding these funds from obligation is without merit. The law requires only that $8,000,000 of grants be made "using competitive procedures," regardless of any directions in the legislative history. It does not prohibit use of the funds. According to the Department, there is no competition underway, and the transfers proposed in the fiscal year 1991 budget indicate that there is no intent to use these funds for grant purposes. It thus appears that in proposing this deferral the Administration is substituting its priorities and policies for those of the Congress. Therefore, the deferral is not authorized.

D90-11 Department of the Army
Procurement of Ammunition, Army
Amount Deferred: $310,000,000
219/12034 218/02034

These funds were provided for the design and construction of an RDX explosive production facility at the Louisiana Army Ammunition Plant.3/ The purpose of the facility was to respond to a "critical shortfall in the Army's mobilization base requirement." S. Rep. No. 235, 100th Cong., 1st Sess. 130 (1987).

As previously stated, the Impoundment Control Act permits deferrals "to achieve savings made possible by or through changes in requirements." 2 U.S.C. § 684(b). The $310,000,000 is being deferred here because of changes in requirements in view of "promising developments in the Soviet Union and Eastern Europe." The justification for the deferral further states that:

> "As a result of these changes, the Department is in the process of conducting a review of all ammunition and production facilities, including the RDX facility, to determine future requirements."

The mere addition of this sentence is not a sufficiently detailed or reasoned explanation for the deferrals. As discussed above, section 1013 of the Impoundment Control Act requires that the reasons for a deferral be fully explained in order to permit Congress to determine whether a deferral is, in fact, a proper exercise of the President's authority under the Act. Here, the Administration gives no more than a generalized assertion that a "review" of ammunition and production facilities is being conducted. Such a broad justification could be asserted for any number of military programs suggesting that the choice of deferring funds for this particular program relates less to the routine operation of the government than to an executive policy choice concerning whether the RDX facility should or should not be funded. Therefore, this deferral is not authorized.

We note that the bulk of the amount deferred, $237,700,000, is only available until the end of this fiscal year, September 30, 1990. Therefore, the review and decision regarding the RDX facility at such a late date effectively puts the RDX funds in jeopardy of lapsing. This could create a situation in which the time remaining in the fiscal year would be insufficient to prudently obligate the funds for construction of the RDX facility thus leading to a potential *de facto* rescission.

3/ This sum is the unobligated balance which was provided for construction of the facility. A total of $262,700,000 was designated out of the fiscal year 1988 appropriation "Procurement of Ammunition, Army," H.R. Rep. No. 498, 100th Cong., 1st Sess. (1987). An additional $72,300,000 was provided in the 1989 Defense appropriation from the same account to fully fund the facility. H. R. Rep. No. 1002, 100th Cong., 2nd Sess. 42 (1988).

D90-17

Department of the Navy
Shipbuilding and Conversion, Navy
Amount Deferred: $324,800,000
170/41611

10

These funds were provided for the procurement of an icebreaker for the United States Coast Guard (USCG). The Congress specifically appropriated $329,000,000 for procurement of the icebreaker. Pub. L. No. 101-165, 103 Stat. 1122 (1989). The conference report accompanying the appropriation act states:

> "The conferees agree that no contract shall be awarded for basic construction of a new icebreaker until 30 days after the President forwards to the Congress the report on polar icebreaking needs that was mandated by the Coast Guard Authorization Act of 1988 [Pub. L. 100-448, 102 Stat. 1847 (1987)]."

H.R. Rept. No. 345, 101st Cong., 1st Sess. 78 (1989).

The justification states that the proposed icebreaker ship design is being verified in order to determine whether the construction can be accomplished within the available funding. According to the Department, the Naval Sea Systems Command is currently reviewing the proposed ship design for this purpose. The Senate proposed $488,000,000 for the icebreaker; however, the conference agreement provided only $329,000,000, thus leading to this design review. An award of the icebreaker contract is not expected until April of 1991. Our Office does not normally consider such contract delays due to design modification, verification or changes in scope, as constituting impoundments of budget authority under the Impoundment Control Act. See GAO, VA Health Care, Delays in Awarding Major Construction Contracts at 3 (GAO/HRD-84-74, B-225048, Mar. 11, 1988); B-221412, Feb. 12, 1986.

D90-14

Department of the Navy
Aircraft Procurement, Navy
Amount deferred: $200,000,000
179/11506

These funds, available until September 30, 1991, are the remainder of $335,332,000 provided for the advance procurement of the V-22 Osprey tiltrotor aircraft in the fiscal year 1989 lump-sum appropriation for "Aircraft Procurement, Navy." Pub. L. No. 101-463, 102 Stat. 2270-9 (1988). See H.R. Rep. No. 1002, 100th Cong., 2nd Sess. (1988).

The fiscal year 1990 Defense appropriation act provides no additional funding for V-22 production. The conference report accompanying the 1990 act notes that the Secretary of Defense ordered a cost and operations effectiveness analysis on the V-22 and other helicopter alternatives. The conferees stated that "study should be used as a basis for a decision to begin production of the V-22 in fiscal year 1991." H.R. No. 345, 101st Cong., 1st Sess. 73 (1989). However, the conferees stated their expectations:

> "that the Department obligate the remainder of the fiscal year 1989 advance procurement funds in order to retain the option to execute a production decision in fiscal year 1991."

Congress subsequently passed the National Defense Authorization Act for 1990 and 1991, Pub. L. No. 101-189, 103 Stat. 1352 (1989). Section 151 of that act provides that no funds appropriated or otherwise available to the Department in fiscal year 1990 under the 1990 and 1991 authorization act or any later enacted law may be obligated for procurement of the V-22. Id., 103 Stat. 1386. The statute, on its face, does not apply to funds previously made available for V-22 procurement. The conference report on the authorization act confirms that this provision was not to extend to the obligation of "prior-year procurement funds." H.R. Rep. No. 331, 101st Cong., 1st Sess. 460 (1989). At the same time the conference report notes that the "cost of the V-22 may prove unaffordable" and that the "future of the V-22 will be considered on the basis of the information that will be provided as a consequence of studies and certification of all reasonable alternatives to the V-22." Id. Furthermore, the authorization act provides an authorization for not more than $255,000,000 for research development, test, and evaluation in connection with the V-22 program. Pub. L. No. 101-189, § 218, 103 Stat. 1397 (1989).

As justification for the deferral, the impoundment message states that the President's budgets for fiscal years 1990 and 1991 proposed termination of the V-22 program. Furthermore, since the Congress provided no appropriations in the fiscal year 1990 Defense appropriations act for production of the V-22, the message states that a stop work order was issued under the advance procurement contract in December 1989 as an efficiency measure. If the funds were not deferred, the message notes, "aircraft components would continue to be procured that could not be used for any other aircraft program . . . [therefore] these funds are deferred as a contingency against incurring additional unnecessary sunk costs."

We conclude this is not a valid deferral action. Congress clearly provided $335,000,000 for advance procurement of the V-22. Although Congress chose not to authorize procurement funding for fiscal year 1990 and 1991, indicating some doubt as to the future of the V-22, Congress did not limit the availability of the prior-year procurement funds at issue here. In the conference on the National Defense Authorization Act for 1990 and 1991 the conferees rejected a Senate proposal to prohibit the obligation of prior-year procurement funds and a House proposal to mandate procurement funds in 1990. H.R. Rep. No. 331, 101st Cong., 1st Sess 460 (1989). This compromise agreement confirms the decision reflected in the conference report on the 1990 appropriation act, that the Department "obligate the remainder of fiscal year 1989 advance procurement funds in order to retain the option to execute a production decision in 1991." H.R. No. 345, 101st Cong., 1st Sess. 73 (1989). Although both the Administration and the Congress have indicated doubts about the future of the V-22 procurement, Congress has made a policy decision to continue advance procurement for the V-22. The Impoundment Control Act does not authorize the Administration to substitute its policy choices for those of Congress under the guise of

establishing "a contingency against incurring additional unnecessary costs." Accordingly, the deferral is unauthorized.

for Milton J. Socolar
Comptroller General
of the United States

ENCLOSURE I

COMMENTS ON THIRD SPECIAL MESSAGE

DEPARTMENT OF DEFENSE:

D90-10 Department of the Army
Aircraft Procurement, Army
Amount Deferred: $16,000,000
210/22031

The latest apportionment statement for this account, dated January 31, 1990, shows total budgetary resources of $3,804,380,000 and not $3,744,080,000 as noted in the message. The amount shown on the apportionment schedule includes an additional $60,300,000 in reimbursements and other income.

D90-12 Department of the Army
Procurement of Ammunition, Army
Amount Deferred: $90,000,000
210/22034

The latest apportionment statement for this account, dated January 31, 1990, shows total budgetary resources of $2,051,243,000 and not $2,011,243,000 as noted in the message. The amount shown on the apportionment schedule includes an additional $40,000,000 in reimbursements and other income.

D90-13 Department of the Army
Other Procurement, Army
Amount Deferred: $11,000,000
210/22035

The latest apportionment statement in this account, dated January 31, 1990, shows total budgetary resources of $3,890,688,000 and not $3,666,488,000 as noted in the message. The amount shown on the apportionment schedule includes an additional $224,200,000 in reimbursements and other income.

D90-15 Department of the Navy
Weapons Procurement, Navy
Amount Deferred: $13,900,000
170/21507

The latest apportionment schedule for this account, dated January 31, 1990, shows total budgetary resources of $5,456,380,000 and not $5,386,380,000 as noted in the message. The amount shown on the apportionment schedule

includes an additional $70,000,000 in reimbursements and other income.

D90-16 Department of the Navy
D90-17 Shipbuilding and Conversion, Navy
Amounts Deferred: $592,398,000 (Sealift)
$324,800,000 (Icebreaker)
170/41611

The latest apportionment schedule for this account, dated January 31, 1990, shows total bugetary resources of $11,401,319,000 and not $11,400,061,000 as noted in the message. The amount shown on the apportionment schedule reflects an upward adjustment of amounts of budget authority previously reduced pursuant to Gramm-Rudman-Hollings.

D90-18 Department of the Air Force
Aircraft Procurement, Air Force
Amount Deferred: $181,700,000
570/23010

The latest apportionment schedule for this account, dated January 31, 1990, shows total budgetary resources of $15,920,159,000 and not $15,673,159,000 as noted in the message. The amount shown on the apportionment schedule includes an additional $247,000,000 in reimbursements and other income.

D90-19 Department of the Air Force
Missile Procurement, Air Force
Amount Deferred: $131,000,000
570/23020

The latest apportionment schedule for this account, dated January 31, 1990, shows total budgetary resources for this account to be $7,015,527,000 and not $6,763,755,000 as noted in the message. The amount shown in the apportionment schedule includes an additional $251,772,000 in reimbursements and other income.

D90-20 Department of the Air Force
Other Procurement, Air Force
Amount Deferred: $70,000,000
570/23080

The latest apportionment schedule for this account, dated January 31, 1990, shows total budgetary resources to be $9,043,320,000 and not $8,394,733,000 as noted in the message. The amount shown on the apportionment schedule includes an additional $648,587,000 in reimbursements and other income.

D90-22 Department of the Air Force
Research, Development, Test and Evaluation, Air Force
Amount Deferred: $100,000,000
570/13600

The latest apportionment schedule for this account shows total budgetary resources of $16,405,672,000 and not $13,625,564,000 as noted in the message. The amount shown in the apportionment schedule includes an additional $2,780,108,000 in reimbursements and other income.

D90-23 Office of the Secretary of Defense
Research, Development, Test and Evaluation,
Defense Agencies
Amount Deferred: $21,000,000
970/10400

The latest apportionment schedule for this account shows total budgetary resources of $8,366,291,000 and not $8,131,793,000 as noted in the message. The amount shown in the apportionment schedule inclue an additonal $234,498,000 in reimbursements and other income.

ENCLOSURE II

CONTENTS OF SPECIAL MESSAGE
(in thousands of dollars)
(as reported by the President)

DEFERRAL NO.	ITEM	BUDGET AUTHORITY
	Department of Defense, Military:	
D90-10	Aircraft Procurement, Army	16,000
D90-11	Procurement of Ammunition, Army	310,000
D90-12	Procurement of Ammunition, Army	90,000
D90-13	Other Procurement, Army	11,000
D90-14	Aircraft Procurement, Navy	200,000
D90-15	Weapons Procurement, Navy	13,900
D90-16	Shipbuilding and Conversion, Navy	592,398
D90-17	Shipbuilding and Conversion, Navy	324,800
D90-18	Aircraft Procurement, Air Force	181,700
D90-19	Missile Procurement, Air Force	131,000
D90-20	Other Procurement, Air Force	70,000
D90-21	National Guard and Reserve Equipment, Defense	40,900
D90-22	Research, Development, Test and Evaluation, Air Force	100,000
D90-23	Research, Development, Test and Evaluation, Defense Agencies	21,000
D90-24	Military Construction, Army	3,200
D90-25	Military Construction, Navy	16,150
D90-26	Military Construction, Army National Guard	18,301
D90-27	Military Construction, Air National Guard	36,841
D90-28	Military Construction, Army Reserve	16,660
	Total, Deferrals	2,193,850

QUESTION

BASED ON YOUR EXPERIENCE WITH SIMILAR SITUATIONS IN THE PAST, HOW MIGHT THE ADMINISTRATION RESPOND TO YOUR RULING?

GAO RESPONSE: In the past, in most situations the Administration has released for obligation those funds required to be released under the Impoundment Control Act of 1974, as amended. The attached informal memorandum sets forth the circumstances surrounding the few situations in which the Comptroller General has had to file suit or submit a 25 day letter before the Administration has agreed to release funds for obligation.

QUESTION

WHAT IS THE LEGAL STATUS OF YOUR DECISION- IS IT BINDING ON THE EXECUTIVE BRANCH?

GAO RESPONSE: Under section 1014(b) of the Impoundment Control Act of 1974, as amended, 2 U.S.C. § 685(b), the Comptroller General submits a report on each presidential impoundment message "to assist the Congress in the exercise of its functions under" the Act. With respect to messages reporting deferrals, the Comptroller General's report is to include:

(2) . . . (A) the facts surrounding each proposed deferral of budget authority (including the probable effects thereof) and (B) whether or not (or to what extent), in his judgment, such proposed deferral is in accordance with existing statutory authority."

It is not clear from the Act what is the legal effect of the Comptroller General's views or whether they are binding on the executive branch. However, under section 1016 of the Act, as amended, 2 U.S.C. 687, whenever budget authority is required to be made available for obligation and the Administration does not make that budget authority available, the Comptroller General is expressly authorized to bring civil action in the United States District Court for the District of Columbia to compel the budget authority to be made available for obligation. Twenty five days prior to bringing such action the Comptroller General must file an explanatory statement with the speaker of the House and the President of the Senate ("25 day letter").

Comptroller General's Authority to Sue under the Impoundment Control Act.

Under 2 U.S.C. § 687, the Comptroller General is empowered to bring a civil action to require that withheld budget authority be made available for obligation. However, the Comptroller General may not bring suit, until 25 days of continuous session of Congress following the date on which the Comptroller General submits an explanatory statement to the House and the Senate of the circumstances giving rise to the potential litigation.

We exercised our authority to file suit in Staats v Lynn, Civ. No. 75-0551 (D.D.C. 1975). In the President's second special message, dated October 4, 1974, he reported a deferral (D75-48) of HUD Housing Production and Mortgage Credit Homeownership Assistance funds totalling $264.1 million. We concluded that the deferral was incorrectly classified and had the effect of a de facto rescission because, in our judgment, the time remaining in the fiscal year would be insufficient to obligate the funds. We concluded that the "deferral" should have been proposed as a rescission. On March 6, 1975, we reported to the Congress that the funds had still not been released and we issued our statutory 25 day notice to Congress of our intent to file suit. Thereafter, we commenced a legal action in District court for the District of Columbia.

On December 15, 1975, we reported that the administration had agreed to release the $264.1 million. GAO signed a stipulation with the Justice Department that the case be dismissed "without prejudice". OMB apportioned the funds and HUD made the funds available for obligation.

On a number of instances, we have threatened to file suit. Listed below are instances where we filed letters, giving the Congress 25 days notice, as required by § 1016, 2 U.S.C. § 687, of our intent to sue to compel release of withheld budget authority:

1) B-115398, July 1976, OGC-76-28 (R76-33).
Department of Health, Education, and Welfare, Health Services Administration: The President proposed rescission of $103 million for the program on January 23, 1976. The forty-five day withholding period ended on March 19, 1976, with no action by Congress. On May 3, 1976, we reported that the money had been apportioned but remained unobligated pending issuance of regulations which were scheduled to be issued in August 1976. We reported this was not enough time to prudently utilize all the budget authority. On July 7, 1976, we issued our 25 day notice to the Congress that we contemplated legal action if necessary to keep the funds from lapsing.

On September 14, 1976, we reported that all budget authority had been made available thus obviating the need to pursue a legal action.

2) B-115398, April 20, 1976, OGC-76-23.
HUD, National Housing Act § 236 operating subsidy program: We reported $26.3 million in this fund as an unreported rescission proposal. Our message had the same effect as a President's proposed rescission message. Forty-five days lapsed with no Congressional action. OMB indicated that the budget authority would not be released. We filed notice of our intent to sue. We pointed out, however, that the fiscal year 1977 HUD appropriations bill, as passed by the House, would transfer the funds to other housing programs. On December 23, 1976, we reported that this provision was

enacted in Pub. L. 94-378, August 9, 1976.

Section 236 funds were at the time also the subject of various individual lawsuits. Eventually, the U.S. Court of Appeals for the D.C. Circuit enjoined HUD from allocating section 236 funds to programs other than the operating subsidy program. We then concluded that there no longer existed an impoundment of section 236 funds because the budget authority was being withheld pursuant to court order not executive action.

3) B-220532, March 4, 1986, GAO/OGC-86-7.
Department of Energy, Strategic Petroleum Reserve (SPR): On February 5, 1986 the President announced a deferral of $270,738,000 of budget authority for SPR. The message included $156.8 million that had been the subject of a previous deferral of SPR funds. The Congress had expressly disapproved that deferral of $156.8 million. The President provided no substantial new basis justifying the reimpoundment. Therefore, we concluded that the deferral was unauthorized. We advised Congress that we contemplated bringing a civil action under section 1016 of the Act. On April 11, 1986, OMB apportioned the $156.8 million, and made the funds available for obligation, thus eliminating our need to take further action.

4) B-220532, March 27, 1986, GAO/OGC-86-8.
Department of Transportation (DOT), Maritime Administration (MARAD): On February 6, 1985, $8.5 million appropriated for the acquisition and preconversion of a replacement vessel for the State University of New York Maritime College was deferred. The President proposed to transfer the funds to other MARAD activities. The Congress expressly disapproved the deferral by Public Law. The MARAD budget authority was

made available but not obligated. On February 5, 1986, the President announced a deferral of $9.35 million which included the $8.5 million that was the subject of the earlier disapproved deferral. The President again proposed a transfer of the deferred funds. Since Congress had already made a judgment that the training vessel was needed by rejecting the previous fiscal year's deferral, we concluded that the reimpoundment was in violation of the Impoundment Control Act and the law disapproving the deferral. Thus, we contemplated bringing a civil suit under to section 1016 to compel release of the MARAD budget authority. On March 28, 1986, the General Counsel of DOT informed us that the $8.5 million had been made available for obligation.

5) B-220532, March 27, 1986, GAO/OGC-86-8.
Department of Transportation, Urban Mass Transportation Administration (UMTA): On October 1, 1985, the President reported a deferral of $223.6 million appropriated for UMTA grants for public mass transportation systems. The Congress, by law, expressly disapproved the deferral directing that the funds be released. The UMTA budget authority was briefly made available but was not obligated. On February 5, 1986, the President proposed to rescind the same $223.6 million which was subject to the previously disapproved deferral. Since the President's justification was essentially the same as that considered by Congress in it's consideration of the deferral and rejected by law, we

QUESTION

PRESS REPORTS CONCERNING A RECENT GAO AUDIT OF THE AIR FORCE STATED THAT GAO BELIEVES THAT THE AIR FORCE'S INTERNAL TRACKING SYSTEM UNDERSTATES THE COSTS OF THE F-15, THE F-16, AND THE B-1 AIRCRAFT BY OVER $6 BILLION EACH. YET I UNDERSTAND YOUR REPORT SAYS YOU DISAGREE WITH THE TOTAL PROGRAM COSTS REPORTED ON THE SELECTED ACQUISITION REPORTS TO CONGRESS BY ONLY ONE TENTH OF THIS AMOUNT.

HAS THE AIR FORCE DECEIVED THE CONGRESS BY UNDERSTATING THE TRUE COST OF THE B-1, THE F-15, AND THE F-16 PROGRAMS BY $20 BILLION?

GAO RESPONSE: The Air Force submits Selected Acquisition Reports (SARs) in an effort to report to Congress the actual and projected costs of weapons systems. The SARs provide more accurate information than do the accounting systems and property systems the Air Force used to prepare financial statements. The cost and quantity data contained in the Aerospace Vehicle and Equipment Inventory, Status, and Utilization, Reporting System (AVISURS) was the basis for aircraft and missile accounts reported in the financial statements. Based on our analyses of procurement costs reported in SARs for the F-15, F-16 and B-1 and as our compilation of actual procurement expenditures recorded in Air Force budgetary reports, we found the AVISURS costs were grossly understated in the neighborhood of $20 billion. The SARs costs more closely approximated the actual costs incurred to produce these weapons systems. But that doesn't mean that the SAR's are accurate. Over the years we have reported problems with the quality of the data in the SARs reports. The most recent, Weapon Acquisition: Improving DOD's Weapon System Acquisition Reporting NSIAD-90-20, November 14, 1989 is provided for the record.

QUESTION

ACCORDING TO A REPORT IN WASHINGTON POST, GAO HAS CONCLUDED THAT "THE B-1B HAS COST $7.5 BILLION MORE THAN THE $28 BILLION REPORTED".

IS THAT WHAT YOUR AUDIT REPORT CONCLUDED?

GAO RESPONSE: Our report said that total procurement costs of the B-1 system reported by the Air Force in their financial statement was $21.9 billion but was understated by at least

$7.1 billion. It went on to say that the gap is even wider if all the government-furnished materials provided to contractors for aircraft production and related research and development are considered. It concluded that Air Force financial systems do not provide its managers with complete and reliable information on costs of its aircraft and missile systems.

QUESTION

GAO HAS SAID IN THE PAST THAT "DOD CURRENTLY VALUES ITS WHOLESALE INVENTORY (THOSE IN ITS CENTRAL SUPPLY DEPOTS) AT $103 BILLION, OF WHICH ABOUT $34 BILLION IS UNREQUIRED STOCK."

WHAT IS THE DEFINITION OF "UNREQUIRED STOCK?" DOES THIS TERM MEAN THAT DOD HAS NO CURRENT OR FUTURE REQUIREMENT FOR THIS MATERIAL?

GAO RESPONSE: In overview, DOD Instruction 4140.24 describes these categories as "excess to the approved force retention level." Although DOD policy would not permit buying such items because it already has too many, DOD records show that additional quantities of the unrequired items are also held as required inventory. Therefore, the same types of items are often still being used. However, the quantities on hand amount to many years of supply for items that are already obsolete or soon will be. Therefore, using all the unrequired items appears unlikely in many cases.

QUESTION

HOW MUCH OF THIS UNREQUIRED STOCK DOES GAO BELIEVE HAS NO FUTURE VALUE TO DOD AND SHOULD BE DISPOSED OF?

GAO RESPONSE: Determining the precise amount requires case by case analysis. However, our random sample of Navy ship and submarine parts indicated that two-thirds of the unrequired inventory should be considered for elimination because the items appeared to have little potential use.

QUESTION

HOW MUCH OF THIS UNREQUIRED STOCK DOES GAO BELIEVE THERE WAS NO REQUIREMENT FOR AT THE TIME IT WAS PURCHASED, MEANING THAT THE DEPARTMENT OF DEFENSE SHOULD NEVER HAVE PROCURED THOSE ITEMS?

GAO RESPONSE: We found examples of specific items, but DOD components' records for unrequired inventory were generally

not adequate to make such determinations after the fact on a projectable basis. In Defense Inventory: Growth in Ship and Submarine Parts, (GAO/NSIAD-90-111, Mar. 6, 1990), we recommended that the Secretary of Defense direct the Secretary of the Navy to require item managers to retain summary data on major items showing the basis for each item's most recent procurement and events affecting the item.

Our preliminary analyses of required inventories in the aggregate indicated questions about large portions of required inventories. For example, the Air Force's required inventory to satisfy the need for aircraft parts beyond the current year has grown more than any other category. It grew from $1.3 billion in 1980 to $6.6 billion in 1988, one-third of the Air Force's requirement. We have been asked by the Chairman, Senate Committee on Governmental Affairs to analyze DOD's required inventories.

QUESTION

DOES GAO HAVE ENOUGH CONFIDENCE IN DOD'S PROPERTY DISPOSAL PROCESS THAT YOU WOULD FEEL COMFORTABLE ABOUT HAVING DOD BEGIN TO AGGRESSIVELY PURSUE DISPOSAL OF THEIR UNNEEDED INVENTORIES OF MATERIAL?

GAO RESPONSE: The DOD property disposal system does include controls aimed at screening items to avoid disposal of items that might be used by the government. Thus, we see no reason for disposals not to continue, especially those items already considered potential excess. While our reports identified much additional inventory that was unlikely to be used, DOD should not dispose of material without following its existing controls to ensure that it is cost effective to do so. Not following the controls would likely cause a repetition of the problems GAO has identified in the past.

We should note that changes in disposal policies is not a major cause of unrequired inventory. Rather, the causes had to do with why the items were obtained. Disposals reduce overloading warehouses, but do not solve the underlying problems.

QUESTION

DOES GAO HAVE ANY SUGGESTIONS ON HOW TO MAKE INVENTORY MANAGERS THROUGHOUT THE DEFENSE DEPARTMENT MORE SENSITIVE TO THE COSTS OF THEIR ACTIVITIES?

GAO RESPONSE: Our suggestions emphasize the need for a commitment at all levels in DOD and not just inventory managers. Accurate management information should be available, and management incentives should discourage buying unnecessary inventory. Establishing annual goals to reduce unnecessary requirements and existing inventory is a key first step. We especially emphasize efforts to minimize buying excessively large quantities of items and items with a high risk of becoming obsolete. Our recent testimony and reports on inventory growth provide additional detail on this overview and our suggestions.

-- Defense Inventory: Problems in Managing Secondary Items, (GAO/T-NSIAD-90-19, Mar. 6, 1990);

-- Defense Inventory: Growth in Air Force and Navy Unrequired Aircraft Parts, (GAO/NSIAD-90-100, Mar. 6, 1990);

-- Defense Inventory: Defense Logistics Agency's Excess Materiel on Order, (GAO/NSIAD-90-105, Mar. 6, 1990); and

-- Defense Inventory: Growth in Ship and Submarine Parts, (GAO/NSIAD-90-111, Mar. 6, 1990).

GAO RESPONSE TO QUESTIONS ASKED BY SENATOR WARNER

QUESTION

YOUR TESTIMONY ON THE BSY-2 SUBMARINE COMBAT SYSTEM FOR THE SEAWOLF SUBMARINE INDICATED THAT "THE CONTRACTOR WILL NOT BE ABLE TO DELIVER THE FIRST COMBAT SYSTEM WITH FULL CAPABILITY TO THE NAVY UNTIL...ONE YEAR LATER THAN NECESSARY TO MEET THE SCHEDULE DELIVERY OF THE FIRST SSN 21..."

HOWEVER, THE GAO REPORTED IN JANUARY 1990 (NSIAD-90-72) THAT THE CONTRACTOR WAS WITHIN ABOUT THREE MONTHS OF THE ORIGINAL SCHEDULE FOR DEVELOPING THIS COMBAT SYSTEM.

DO YOU STILL AGREE WITH THE FINDINGS OF THE JANUARY REPORT?

GAO RESPONSE: Yes, the finding in our January report that slippage of about 3 months had occurred on the full scale development contract during the first year of that contract was correct.

QUESTION

THE GAO'S JANUARY REPORT ON SUBMARINE COMBAT SYSTEMS STATES:

"DURING THE FIRST PHASE, [THE DEVELOPER] PLANS TO DELIVER ABOUT 2.7 MILLION LINES OF THE REQUIRED SOFTWARE (ABOUT 86 PERCENT) IN NOVEMBER 1993...THE SECOND PHASE, WHICH INCLUDES THE REMAINING 426,000 LINES OF SOFTWARE IS TO BE PROVIDED TO THE NAVY IN NOVEMBER 1994, BEFORE TECHNICAL EVALUATION BEGINS IN JULY 1995."

THE NAVY HAS CONFIRMED THAT THE SCHEDULE CALLS FOR THE FULL BSY-2 COMBAT SYSTEM TO BE DELIVERED BY NOVEMBER 1994.

DOES THE CURRENT SCHEDULE SUPPORT A SHIP DELIVERY OF MAY 1995?

GAO RESPONSE: The two phased approach to delivery of AN/BSY-2 hardware and software was conceived to allow support of a construction schedule for timely ship delivery. At the time of Full Scale Development contracting for the AN/BSY-2, the ship delivery date was November 1994. That ship delivery date has now been changed to May 1995. We did not assess ship construction schedules to support specific delivery dates.

QUESTION

WHAT EXACTLY IS THE BASIS FOR SAYING THE COMBAT SYSTEM DEVELOPER WILL NOT DELIVER THE COMBAT SYSTEM TO THE NAVY UNTIL ONE YEAR LATER THAN IS REQUIRED TO MEET THE SCHEDULED DELIVERY OF THE FIRST SSN-21?

GAO RESPONSE: The delivery of the fully capable system is of course the date of the final delivery under the two phased approach. It is not the date of the phase one delivery which will consist of hardware and most of the required software. The phase one delivery is now scheduled for the date that was originally planned for delivery of a fully capable system. Subsequent phasing of the delivery was required to mitigate software development risks and to allow construction to proceed without the fully capable system having been delivered. The delivery date for the submarine has been slipped by 6 months. The Navy has stated that the 6 months slippage of the submarine delivery date was approved for reasons other than difficulties with the AN/BSY-2. The distinction has to be made between delivery of the fully capable system and the delivery of the "first phase" which consists of hardware and most, but not all, software.

QUESTION

IS GAO SAYING THAT THE FIRST SEAWOLF WILL BE DELIVERED ONE YEAR LATER THAN MAY 1995? IF DIFFERENT FROM THE NAVY'S, WHAT IS GAO'S ESTIMATE OF WHEN THE FIRST SEAWOLF, WITH A FULL COMBAT SYSTEM, WILL BE DELIVERED TO THE NAVY?

GAO RESPONSE: No, we are not making a prediction of the delivery date.

QUESTION

THE GAO'S JANUARY REPORT ON SUBMARINE COMBAT SYSTEMS INCLUDES THE FOLLOWING STATEMENTS ON PAGES 29 AND 30:

"THE NAVY, ON THE BASIS OF PROBLEMS WITH THE SUBACS AND AN/BSY-2 COMBAT SYSTEM PROGRAMS, HAS ADJUSTED ITS STRATEGY FOR THE AN/BSY-2. THESE MEASURES INCLUDE ESTABLISHING A 2-YEAR DEFINITION PHASE, DEVELOPING AND TESTING SOFTWARE AS SEPARATE MODELS CALLED PARTITIONING, AND PROCURING AND PROVIDING (THE DEVELOPER) WITH HARDWARE EARLY ENOUGH TO ALLOW AN ADDITIONAL YEAR OF DEVELOPMENT AND TESTING WITHIN THE OVERALL SCHEDULE...

"(THIS) IS THE FIRST SUBMARINE COMBAT SYSTEM...TO USE THE SOFTWARE DEVELOPMENT REQUIREMENTS OF DOD STANDARD 2167. THIS COMBINED WITH (1) THE LONGER DEVELOPMENT TIME FOR BSY-2, (2) THE BENEFITS DERIVED FROM THE TWO-CONTRACTOR, 2-YEAR SYSTEM DESIGN DEFINITION PHASE, AND (3) THE INTENSIVE EARLY OVERSIGHT, SHOULD ALLOW BSY-2 TO PROFIT FROM THE SIMILARITIES TO EARLIER PROGRAMS. IN ADDITION, THE BSY-2 PHASED SOFTWARE DELIVERY IS DIFFERENT FROM THE BSY-1'S IN THAT THE BSY-2'S APPROACH WAS TAKEN BEFORE AWARD OF THE DEVELOPMENT CONTRACT RATHER THAN AS A MID-DEVELOPMENT MITIGATION PLAN."

IS THIS AN ACCURATE STATEMENT?

GAO RESPONSE: Both statements are contained in our January 1990 report but the attribution for each is different. The first statement is ours and the second summarizes DOD comments on our report.

With respect to the GAO statement, we went on to say that "many similarities, however, still exist between the AN/BSY-2 program and its predecessors, SUBACS and AN/BSY-1 programs, that indicate the program could encounter future problems. An analysis of various program features shows similarities exist between schedules, software developments, concurrency, combat system capabilities, and at-sea testing. Of particular concern is the similarities in program schedule and software development features."

These statements reflect the concerns we have about the AN/BSY-2 combat system development program and the potential problems that the Navy may encounter as this program progresses.

The DOD comments to our January 1990 report refer to the Navy actions based on lessons learned from prior programs and are accurate as best as we can tell. However, whether the benefits that the AN/BSY-2 program can derive from these actions will not be known for several years.

As for the decision to have a phased delivery of the AN/BSY-2 software, it is accurate that the decision was made before award of the development contract rather than as a mid-development correction plan. However, it must be pointed out that phased software delivery was not how software delivery was originally envisioned within the AN/BSY-2 program. The

Navy agreed to the phased delivery after the contractor indicated that it would be "unable to develop, test, produce and deliver a fully capable system in time for the first delivery."

Historically, the most difficult and problem laden aspect of combat system development is the software development. This was true of the AN/BSY-1 program and may well prove true for the AN/BSY. Our concern here is that if the Navy is having to agree to a change in software delivery plans this early in the program, without intense management attention, there is potential that additional program slippages may occur. This was brought out in our March 13, 1989 report Submarine Combat System: Technical Challenges Confronting Navy's Seawolf AN/BSY-2 Development (GAO/IMTEC-89-35). In that report, several areas were identified where the Navy's early and continued management attention was desirable if it was to meet this challenge. Among them were the Navy's ability to maintain the software development schedule due to massive software requirements and its use of the Ada computer language.

QUESTION

IN TESTIMONY TODAY, THE GAO SAID THAT ONE PROBLEM WITH BSY-2 SOFTWARE DEVELOPMENT IS THAT "NO CONSISTENT TRAINING PROGRAM HAS YET BEEN DEVELOPED BY THE CONTRACTOR."

THE NAVY SAYS THAT AT THIS TIME A FORMAL, CONSISTENT TRAINING COURSE HAS BEEN IN PLACE AT ALL CONTRACTOR SITES TASKED WITH SOFTWARE DEVELOPMENT FOR OVER SIX MONTHS, AND SEVERAL CLASSES HAVE ALREADY COMPLETED GRADUATION FROM THIS COURSE.

IS THIS REPORT ACCURATE?

GAO RESPONSE: In our March 1989 report, we stated that during our audit work we found that the prime contractor was not requiring consistent training programs for the seven software development organizations, and was essentially leaving each of the organizations to train their programmers as they saw fit. The result was that the organizations were proceeding with varying levels of training provided by different vendors or, in one case, by in-house instructors. The point of this discussion was that adequate training is critical given the

risks inherent in developing the large amount of software in the relatively new Ada language, using largely inexperienced Ada programmers. As we stated in our report, consistent training among the software development organizations could prove cost-effective in reducing the risk of significant errors later.

. We held a detailed exit conference with Navy officials who agreed that consistent training plans had not been developed, and promised to focus management attention on it. The degree to which consistent training courses are in place at all contractor locations is an issue to be addressed in a recently initiated survey.

QUESTION

TODAY'S TESTIMONY INDICATED THAT "THE NAVY...ESTABLISHED OVERLY AMBITIOUS OBJECTIVES AND SCHEDULES FOR THE AN/BSY-2 PROGRAM." BUT THE GAO'S JANUARY REPORT SAYS THE "THE NAVY...HAS ESTABLISHED AMBITIOUS OBJECTIVES AND SCHEDULES FOR THE AN/BSY-2."

WHAT SIGNIFICANCE SHOULD BE READ INTO TODAY'S NEW DESCRIPTION OF THE GOALS AS "OVERLY" AMBITIOUS?

GAO RESPONSE: The description of the AN/BSY-2 program objectives and schedules as being ambitious or overly ambitious is a matter of semantics. What is important is that the Navy is developing a very complex system with nearly twice the amount of software as in the AN/BSY-1 combat system. The Navy faces some difficult issues such as the use of the Ada programming language and the supply of trained Ada programmers, the risks of concurrent AN/BSY-2 development and ship construction, and limited at-sea testing. Intense Navy management attention is needed to successfully meet these challenges within the established program objectives and within the planned cost and schedule.

QUESTION

IN TODAY'S TESTIMONY, THE GAO SAID THAT "THE BSY-1 SYSTEM WILL PROVIDE THE SSN-668 SUBMARINE WITH IMPROVED ACOUSTICS AND WEAPONS LAUNCH CAPABILITIES, (BUT IT) WILL BE LESS CAPABLE IN OTHER AREAS."

THE NAVY SAYS THAT THE BSY-1 DOES NOT HAVE ANY SYSTEM "AREA" WHICH IS LESS CAPABLE THAN ANY PREVIOUS COMBAT SYSTEM.

THE NAVY GOES ON TO SAY THAT THIS STATEMENT WAS PROBABLY LIFTED OUT OF CONTEXT FROM AN EARLIER REPORT (JANUARY 1990) THAT "THE BSY-1 (WILL) PROVIDE SIGNIFICANTLY IMPROVED EFFECTIVENESS OVER (PREDECESSOR SYSTEMS) IN THE ACOUSTIC AND WEAPON LAUNCH AREAS, BUT THE BSY-1'S PERFORMANCE CAPABILITIES ARE LESS THAN ORIGINALLY PLANNED UNDER SUBACS BASIC" (EMPHASIS ADDED).

THE NAVY ALSO REPORTS THAT THE BSY-1 IS FULLY MISSION CAPABLE, AND THAT THE USS SAN JUAN (SSN-751) IS AT SEA TODAY WITH THIS SYSTEM AND WILL COMMENCE TECHEVAL IN APRIL. THEY SAY THE FIRST FOUR BSY-1 SYSTEMS WERE NOT FULLY MISSION CAPABLE; THAT THESE SYSTEMS HAVE NOW BEEN UPGRADED TO FULL CAPABILITY ON THE 751 AND 752 AND WILL BE INSTALLED ON THE 753 AND 754 DURING POST SHAKEDOWN AVAILABILITY (PSA).

IS THE NAVY CORRECT?

GAO RESPONSE: There is no difference between the statement on the AN/BSY-1's capabilities and that made by the Navy. The AN/BSY-1 will provide the SSN-688 improved submarines with improved acoustics and weapons launch capabilities but it will be less capable than originally planned. Whether the AN/BSY-1 is "fully mission capable" will not be accurately determined until the completion of the April Technical Evaluation.

The Navy is correct when they state that the first four AN/BSY-1 systems delivered were not fully mission capable and that an upgrade package (hardware and software) has been prepared to make these systems fully capable. The upgrades have been installed on the first two SSN-688 Improved submarines and will be installed on the next two during each submarine's post shakedown availability.

QUESTION

THE GAO REPORTED CONCERN OVER COST GROWTH AND SCHEDULE SLIPPAGE INVOLVING THE DDG-51 DESTROYER.

THE NAVY STATES THAT THE SCHEDULE FOR THE DDG-51 WAS LAST CHANGED NEARLY TWO YEARS AGO, AND THAT SINCE THEN IT HAS REMAINED UNCHANGED. THE NAVY SAYS THE SHIP WILL BE DELIVERED IN FEBRUARY 1991, AS WAS SCHEDULED TWO YEARS AGO. AND THE NAVY SAYS THE COST OF THIS SHIP IS WITHIN THE COST GOAL ESTABLISHED BY THE SECRETARY OF THE NAVY IN 1983, WHICH WAS A CEILING OF $1.252 BILLION IN FY85 DOLLARS.

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THEY ARE NOT REQUESTING ANY ADDITIONAL APPROPRIATIONS FOR THIS SHIP. THE SHIP WILL BE DELIVERED AS SCHEDULED.

SO WHAT IS THE PROBLEM?

GAO RESPONSE: While the current schedule calls for delivery in February 1991, much remains to be done including the integration of the AEGIS combat system. It is often during such integration that problems develop that can impact follow on plans. The Navy's own technical assessment on the DDG-51's current contract modification acknowledged that there were issues to be resolved. For the collective protective system it found that "it is expected that during production and activation, waterfront problem solving will be required at an unprecedented level to meet timely production demands". For the data multiplex system a major concern was "the potential impact to the test and activation schedule, and even delivery delay should problems continue to occur and not be resolved immediately at the waterfront". Overall, NAVSEA acknowledged that "Production risk is a major concern. NAVSEA believes significant assembly and erection risk lies ahead. Production manpower during construction is likely to be considerable, given the first time application of many of the features new in DDG-51...Finally, production risk is further increased incident to maintaining the contract schedule while incorporating ECP 760 [the contract modification which includes the radar cross section]".

While the Navy says the ship will still come in under the original projection of $1.252 billion (in 1985 dollars), it is important to understand that was an estimate and the appropriation has been changed over the last several years. For example, in January 1988 the appropriation was $1.055 billion which included construction costs of $356 million. It is this construction figure that has now increased to $500 million. Until the AEGIS and other systems are integrated and the DDG-51 tested the final costs will not be known.

QUESTION

TODAY (MARCH 1), THE GAO TESTIFIED THAT "IN JANUARY 1990, WE ISSUED A REPORT ON THE DDG-51 PROGRAM IN WHICH WE RECOMMENDED THAT THE SECRETARY OF DEFENSE DELAY THE CONTRACT AWARD FOR FOLLOW-ON SHIPS UNTIL HE COULD PROVIDE ASSURANCE AS TO THE DEVELOPMENT AND AFFORDABILITY OF THE PROGRAM. LAST WEEK, THE NAVY AWARDED

CONTRACTS FOR 5 FOLLOW-ON SHIPS AND NOW HAS A TOTAL OF 12 FOLLOW-ON SHIPS UNDER CONTRACT.

NAVY SECRETARY GARRETT WROTE A LETTER TO THE CHAIRMAN OF THE SEA POWER SUBCOMMITTEE OF THE HOUSE ARMED SERVICES COMMITTEE (REP. BENNETT) ON FEBRUARY 22, 1990 IN WHICH HE SAID "NEITHER WE NOR THE SECRETARY OF DEFENSE SHARE THE GAO'S PERCEPTION OF THE RISK."

EARLIER, THE DIRECTOR OF DEFENSE RESEARCH AND ENGINEERING HAD WRITTEN TO MR. FRANK C. CONAHAN, THE ASSISTANT COMPTROLLER GENERAL, IN ORDER TO COMMENT ON A DRAFT OF THE GAO REPORT (GAO CODE 394265). HE STATED "THE DOD DOES NOT AGREE WITH THE RECOMMENDATION TO DELAY THE SCHEDULED AWARD OF CONTRACTS FOR ADDITIONAL FOLLOW SHIPS.

"ARE YOU FAMILIAR WITH THIS MATERIAL? IN YOUR VIEW, HAS THE SECRETARY OF DEFENSE PROVIDED THE ASSURANCES YOU RECOMMENDED?"

GAO RESPONSE: We are familiar with this material and included the Navy's position as their comments to our draft report. However, we continue to believe that assurances were needed before the program moved forward. The Secretary of Defense has not provided the assurances that we expected. The plans are to buy 33 DDG-51s, and 7 follow-on ships were already under contract when we issued our report. Given that the lead ship still needs to be built and the concerns the Navy itself expressed (as discussed in our response to the previous question), we believed it was prudent to reevaluate the status of the program before making additional awards. The Secretary of Defense's assurance should have discussed such things as that the problems are being adequately addressed, the impact on the follow-on ships has been assessed, and that the sea trials planned for later this year are on schedule. A delay until after sea trials had begun would still have allowed award of the ships this fiscal year and would have provided more assurances than the Navy comment to Chairman Bennett that the request for authority to award the ships constitutes the Secretary of Defense's assurance.

QUESTION

IN YOUR COMMENTS ON DOD'S AUTOMATED INFORMATION SYSTEMS, YOU POINT OUT REAL EXISTING AND CONTINUING PROBLEMS. THE DOD CANNOT ANSWER A NUMBER OF CONGRESSIONAL AND/OR GAO QUESTIONS AND CHARGES BECAUSE THEIR INFORMATION SYSTEMS ARE IN VERY POOR CONDITION. THE CONGRESS AND OTHER REVIEW AGENCIES OFTEN SAY: "CUT THE FUNDS AND GIVE ME MORE INFORMATION." THESE DIRECTIONS APPEAR TO BE INCONSISTENT.

YOU SUGGEST ENFORCING ESTABLISHED REVIEW POLICIES, PROCEDURES, AND CRITERIA ARE THE ANSWER. IS THIS REALLY SUFFICIENT TO SOLVE THIS CONTINUING PROBLEM?

GAO RESPONSE: We believe that effectively implementing the policies and procedures established more than 10 years ago is critical to solving the problems with Defense's automated information systems. On paper, these policies and procedures provide a relatively comprehensive definition of the management control and decision making process for the development of systems. However, the problems we continually identify during our reviews of major Defense systems tell us that Defense's oversight process is not rigorously enforcing established policies and procedures.

We recognize that the underlying causes for many of the problems are complex and long-standing deficiencies that will not be easily or quickly corrected. We believe, however, that senior Defense managers must make the commitment to rigorously implement the oversight process, maintain visibility during each major system's development, and be able to make the tough decisions to substantially re-direct or terminate systems when the facts reveal that such action is warranted. It is also critical that Defense managers continue to recruit and train good technical people at all levels to implement the policies and procedures.

QUESTION

REGARDING YOUR STATEMENT THAT THE REMAINING DECISIONS FOR REDUCING THE FIVE YEAR DEFENSE PROGRAM (FYDP) TO BRING IT IN LINE WITH THE PRESIDENT'S BUDGET SHOULD BE MADE SOON, WHEN SHOULD DOD BE EXPECTED TO SUBMIT A REVISED, LINE-ITEM- DETAIL FYDP TO THE CONGRESS? IN OTHER WORDS COULD YOU REFINE THE TERM "SOON" IN YOUR TESTIMONY.

GAO RESPONSE: DOD plans to make the remaining budget reduction decisions during next year's Planning, Programming, and Budgeting process. The FYDP is normally updated in April of each year to provide the services a basis or starting point for developing the next year's budget proposals. DOD officials state that they are planning to prepare an April FYDP this year. This FYDP should reflect the details of the previous year's budget decisions. It is important that this FYDP data be available to the Congress in evaluating the current budget submission since it would provide the line-item details of the budget decisions made to date. It is also

important that the Secretary provide realistic fiscal guidance to the services in developing next year's budget proposals in order to avoid a repeat of this year's inability to make the decisions necessary to support the President's budget submission.

QUESTION

YOU RECOMMENDED THAT IT IS TIME TO RETHINK OUR ENTIRE WEAPON SYSTEM ACQUISITION STRATEGY. YOU SUGGEST THAT CONCURRENT PRODUCTION AND TESTING IS WRONG.

THE OPPOSITE OF THIS IS TO COMPLETELY DEVELOP AND TEST A SYSTEM PRIOR TO PROCUREMENT. THIS MAY LEAD TO EXTENSIVE AND UNREASONABLE ACTIONS TO HOLD BACK A SYSTEM.

DO YOU HAVE A GOOD RULE AS TO WHEN TO CUT OFF THE TINKERING AND GO TO PRODUCTION?

HOW DO YOU ENSURE YOU NOT GET FULL DEVELOPMENT AND TESTING, AND THEN PRODUCE AN OBSOLETE WEAPON SYSTEM?

WHY DO YOU NOT PUSH FOR FULL DEVELOPMENT AND TESTING OF THE NEEDED SUPPORT AND TEST EQUIPMENT TO ACCOMPANY THE DELIVERY OF THE WEAPON SYSTEMS?

GAO RESPONSE: I did not intend to imply that concurrency in all cases is wrong. I believe there are instances where the urgency of the threat, for example, may dictate concurrency. Concurrency can be an effective acquisition strategy when it is well planned and controlled. The problem has been, however, that too many systems have been structured with too much concurrency as a matter of practice and not well justified. Concurrency has been used as an excuse to shorten the acquisition process rather than to meet a time critical deployment date.

Unfortunately, there are no definitive rules or guidelines that dictate how much concurrency should be structured in a program or the conditions that need to be present to justify concurrent development and production. We do not endorse or support lengthy development periods that may result in the procurement of an obsolete system. It all seems to boil down to a question of risk. The greater the risk, the less

concurrency there should be.

As early as 1985 we addressed the issue of whether sufficient operational test and evaluation results were being obtained before production began on major weapon systems that are concurrently developed and produced. We reported that concurrently developed and produced weapon systems may be justified on an exception basis to meet certain exigencies but concurrency should not prevent decision making from having information to assess system operational performance before production start-up.

We believe that more attention needs to be given to testing of critical subsystems and support equipment that may present high risk. We realize that complete prototype systems for testing may not always be possible because of such things as cost, time, technology, etc. However, in such cases, it may be more appropriate to test and evaluate those critical subsystems or components that present the highest risk. In any event, we believe that if concurrency is to be made part of a system's acquisition strategy the program should be structured to allow for timely test and evaluation to identify risk and minimize the chance that a system will be produced that does not meet performance requirements.

QUESTION

YOU RECOMMENDED SLOWING OR STOPPING THE B-2 PROGRAM UNTIL "CRITICAL PERFORMANCE REQUIREMENTS" ARE "FULLY TESTED IN 1993, BUT THE APPROACH OF THIS COMMITTEE HAS BEEN TO SET A PRECISE AND TIGHT SET OF FUNDING "GATES THAT RELEASE FUNDS ONLY WHEN DEFINED TEST OBJECTIVES HAVE BEEN MET EACH YEAR, EVEN THOUGH THE FULL TEST PROGRAM HAS NOT BEEN COMPLETED. WHY STOP THE PROGRAM IF ALL THE TESTS UP TO NOW HAVE BEEN SUCCESSFUL?

GAO RESPONSE: Already, over $27 billion has been invested in the B-2 program. Over the next three years, another $21 billion will be required. GAO believes these significant funding requirements, combined with the current uncertainties that exist with the B-2 estimated program cost, schedule,and manufacturing status and the limited actual flight testing accomplished to date require an examination of alternative B-2 acquisition strategies. If this analysis identifies options that would minimize the up front investment in the B-2 until some of the current uncertainties are resolved, especially

aircraft performance, then GAO believes these actions should be taken.

The funding gates established by the Congress do provide a good method to link funding decisions to flight test progress, but the critical test activities that have in the past identified developmental problems are not scheduled until late in the test program. If the June 1989 acquisition strategy is carried out, over $48 billion and multiyear procurement will be authorized before the critical testing has been completed.

QUESTION

THIS COMMITTEE ADDED LANGUAGE TO THE FY90 AUTHORIZATION ACT THAT REQUIRED THE B-2 MUST MEET A SERIES OF GATES BEFORE ANY FUNDS MAY BE OBLIGATED. THE GATES INCLUDE

-- INITIAL FLIGHT TEST MUST BE COMPLETED,

-- DIRECTOR, OT&E HAS REVIEWED THE TEST RESULTS,

-- THE SECRETARY HAS PROVIDED TO THE CONGRESS AN UNCLASSIFIED VERSION OF THE B-2 FULL PERFORMANCE MATURITY MATRIX,

-- THE B-2 HAS BEGUN ITS LOW OBSERVABILITY FLIGHT TESTING; AND,

-- THE SECRETARY OF DEFENSE CERTIFIES TO THE CONGRESS THAT THE EARLY TESTING HAS NOT IDENTIFIED MAJOR AERODYNAMIC OR FLIGHT WORTHINESS PROBLEMS.

HAVE YOU EVALUATED THESE PROVISIONS, AND IF SO, WHAT ARE THEIR IMPACT ON THE B-2 PROGRAM?

GAO RESPONSE: GAO has not specifically evaluated the impact of the provisions of the FY90 Authorization Act on the B-2 program. GAO has been an advocate of the maturity matrix approach to tracking test planning and progress on this program, and use of funding gates is a good method to link funding decisions to test progress.

The utility of this approach, however, may depend on the cost of procuring the number of aircraft planned prior to completion of critical testing. The larger the number of aircraft linked to a particular decision point, the greater the impact of a decision to withhold funds. Large planned

procurement quantities also require significant long lead funding, which, once committed, increases the pressure to continue in spite of testing difficulties.

A more prudent early procurement schedule would reduce both the pressure on the test program, and the impact of any actions taken if the maturity matrix objectives are not met. To date, schedule and funding instability in the B-2 program have resulted in manufacturing schedule disruptions, contracting problems, and significant cost growth. If the B-2 test schedule proves to be too ambitious, failure to meet funding gate criteria will result in withholding obligation authority. This will cause the same type of disruptions that have characterized the program to date, particularly if large numbers of aircraft are involved.

GAO believes that reducing the pace of planned B-2 procurement prior to completion of critical testing will not only reduce the risk in the program, but will enhance the effectiveness of the funding gate approach to monitoring test progress.

QUESTION

WHEN YOU RECOMMEND THAT WE HOLD BACK ON PRODUCTION OF THE B-2 UNTIL CRITICAL PERFORMANCE REQUIREMENTS HAVE BEEN FULLY TESTED, DO YOU MEAN THAT YOU WANT TO SEE THE WHOLE SET OF RADAR TESTS COMPLETED FIRST?

IF SO, DO YOU MEAN THAT WE CANNOT RELY ON EARLY TEST RESULTS TO DEMONSTRATE THE "STEALTH" PROPERTIES OF THE B-2 --EVEN IF THEY FULLY AGREE WITH AIR FORCE MODELS AND PREDICTION?

GAO RESPONSE: Early test results may validate the stealth properties of the B-2. However, GAO believes that critical performance requirements would go well beyond radar cross section, or low observable testing in general. For example, the testing of the integrated avionics package, which includes both offensive and defensive avionics, is not scheduled until late in the test program. It was this type of testing that identified significant problems with the B-1 aircraft.

GAO believes that alternative acquisition strategies should be examined that would minimize the up front investment in the B-2 until all of these critical performance requirements are tested.

QUESTION

HAVE THE TOOLING PROBLEMS WHICH YOUR OFFICE IDENTIFIED EARLIER IN THE PROGRAM BEEN CORRECTED BY DOUGLAS? IF NOT, WHAT IS THE CURRENT STATUS?

GAO RESPONSE: In our 1989 report on the C-17, we identified late delivery of tooling as a factor contributing to aircraft assembly schedule delays. Recent trend data show that late tooling has been reduced.

QUESTION

HOW EFFECTIVE HAS THE CONTRACTOR REORGANIZATION BEEN IN IMPROVING THE ABILITY TO PRODUCE THE C-17 MORE CLOSELY TO THE ORIGINAL SCHEDULE?

GAO RESPONSE: In February 1989 Douglas Aircraft Company started reorganizing. Douglas essentially changed from a functional organization (engineering, procurement, etc.) to a company organized around the aircraft it produces (C-17, MD-11, MD-80). Even with the reorganization, Douglas has yet to resolve assembly, avionics, and development problems, and the C-17 schedule continues to slip. For example, in December 1989 the Air Force moved first flight from August 1990 to June 1991. Thus, the reorganization alone has not been effective in resolving program schedule problems.

Douglas officials stated that without the reorganization, the C-17's schedule would have slipped even further. In addition, they stated several factors indicate that the reorganization has helped the C-17 program. These include improved schedule predictability, better relations with the union, and effective working relationships with the largest subcontractors.

QUESTION

HAVE THE CHANGES IN CONTRACTORS OR SUBCONTRACTORS FOR BOTH THE C-17 FLIGHT CONTROL COMPUTERS AND THE WING COMPONENT INTEGRATION BEEN EFFECTIVE IN THE OPINION OF GAO?

GAO RESPONSE: Since contract award in June 1989, the new subcontractor for the electronic flight control system has been on or ahead of schedule. Its schedule performance has increased stability in a critical area of the C-17 program. However, significant milestones, such as the scheduled delivery of flight worthy hardware and software in October 1990, have yet to be achieved.

Douglas awarded several contracts for C-17 wing components in February 1990. Douglas officials believe this action will reduce program costs. However, it is too early to determine whether this change in subcontractors has been effective because some of the subcontractors have yet to demonstrate cost and schedule performance.

QUESTION

DO YOU THINK THAT THE PROJECTED $39 BILLION IN DMR SAVINGS COULD BE ACHIEVED THROUGH PROPER IMPLEMENTATION OR IS THIS SAVINGS TARGET WILDLY UNREALISTIC GIVEN THE ACTIONS DOD HAS PROPOSED TO UNDERTAKE?

GAO RESPONSE: At this point we can not determine whether the $39 billion in savings could be achieved. However, we would not characterize the savings estimate as wildly unrealistic. There is no doubt that significant savings could be achieved through these initiatives.

However, it is too early to assess the validity of the $39 billion savings estimate because (1) DOD has not made many of the decisions that need to be made in order to implement the DMR; (2) DOD does not have the level of detail on personnel reductions and savings that are necessary in order to assess the validity of the savings estimate; (3) some of the initiatives will not even be implemented until FY 1992 or later; (4) consolidation studies which are expected to result in savings of $5.6 billion are incomplete; and (5) some initiatives are accounting changes which may or may not prove beneficial.

QUESTION

WHAT SPECIFIC ACTIONS DOES DOD NEED TO UNDERTAKE WITH THE DMR TO OVERCOME ITS QUESTIONABLE TRACK RECORD ON LONG-TERM INITIATIVES?

GAO RESPONSE: Prior efforts to improve the efficiency and effectiveness of defense management, such as the Packard Commission, partially failed because it appeared that no one in DOD was assigned ongoing responsibility to implement the recommendations. Also it appeared that there was little top management commitment to externally imposed initiatives. There appears to be a greater and renewed commitment by the current administration and DOD top management to improving defense management. The President committed to defense management improvements in his campaign and has followed up with the DMR. However, the success of the DMR initiatives

will require continued top management commitment and oversight.

DOD currently has in place a high-level monitoring function at both the OSD and service levels. We are concerned that this monitoring function will not provide the daily management direction and oversight that is needed. It is critical that this monitoring function provides top management with progress reports and assessments on the implementation of the initiatives and that top management provides the guidance and direction needed to assure full implementation. Initial efforts have been made to develop an initiative implementation tracking system. Until this tracking system is developed, DOD does not have a systematic method for centrally managing and reporting on DMR efforts and the resultant personnel reductions and savings.

QUESTION

HOW SIMILAR IN DETAIL ARE THE PROPOSED COST SAVINGS MEASURES IN THE DEFENSE MANAGEMENT REVIEW TO THE REDUCTION AND CONSOLIDATION MEASURES RECOMMENDED BY THE GAO IN ITS REPORTS OVER THE LAST SEVERAL YEARS? GIVEN THE WORK THAT GAO HAS DONE IN SUCH AREAS AS STREAMLINING THE ACQUISITION PROCESS; CONSOLIDATING DEPOT AND MAINTENANCE FACILITIES; AND REDUCING SUPPLY SYSTEM COSTS; DO YOU FEEL THAT DOD IS ON THE WRONG TRACK IN ITS APPROACH TO ANY OF THESE SPECIFIC MEASURES?

GAO RESPONSE: It appears that previous recommendations we have made are reflected in the DMR initiatives. We have previously reported on such issues as: consolidating maintenance depots and functions; centralizing accounting and finance functions; reducing layers of review for weapons acquisitions; professionalizing the acquisition workforce; and, better managing government furnished equipment and inventories. DOD's proposals appear to be on the right track, however, the key to success lies in implementation.

QUESTION

DO YOU TAKE ISSUE WITH THE METHODOLOGY BEHIND THE FISCAL YEAR 1991 DMR SAVINGS ESTIMATES OR ONLY THAT FOR THE AGGREGATE FY 91-94 SAVINGS?

GAO RESPONSE: We are not able to analyze the methodology used to calculate the savings estimates since DOD has not made many of the decisions necessary for implementation of some

initiatives. $2.3 billion in savings are already reflected in the FY 1991 budget. However, action plans for some of the proposals have not been formalized, which could lead to more or less than the expected savings. For example, DOD expects to save $300 million in FY 1991 from the results of consolidation studies that are not yet complete and $500 million from unspecified plans for streamlining AMC.

Our concern for the lack of details extends to the outyears. Most of the savings ($36.7 billion) are due in the outyears and, again, there are no firm plans for some initiatives.

QUESTION

EARLY IN FEBRUARY, THE SENATE BUDGET COMMITTEE ISSUED A REPORT WHICH WAS VERY CRITICAL OF DOD'S MANAGEMENT OF SPARE PARTS INVENTORIES. ONE STATEMENT IN THE REPORT, IN PARTICULAR, RECEIVED A GREAT DEAL OF ATTENTION IN THE MEDIA. THE REPORT ASSERTED THAT THE NAVY CURRENTLY HAS IN ITS INVENTORY A 13,157-YEAR SUPPLY OF ONE PART USED ON THE F-14 JET. I UNDERSTAND THAT GAO DISAGREES WITH THIS STATEMENT, AND THAT YOUR STAFF BELIEVES THAT THE NAVY'S INVENTORY OF THIS PART IS REALLY A 22-YEAR SUPPLY. COULD YOU COMMENT ON THIS DISCREPANCY?

GAO RESPONSE: The 13,157-year supply is the supply reflected in DLA's reports of the last few years, through its January 1990 report. The 22-year supply is an estimate by a DLA item manager, reportedly based on contacts with the user of the item. GAO does not have independent data that would verify the current accuracy of either estimate.

QUESTION

IN YOUR FINDINGS ON THE DOD'S INVENTORY MANAGEMENT SYSTEM, YOU IDENTIFY ABOUT $34 BILLION IN EXCESS INVENTORY THAT ARE NOT NEEDED TO MEET CURRENT OPERATING OR WAR RESERVE REQUIREMENTS. COULD YOU TELL US WHAT TYPE OF INVENTORY THIS IS AND CAN THE GOVERNMENT RECOUP ANY OF THE COST BY SELLING IT OR GIVING IT TO ALLIES AS PART OF THE FOREIGN MILITARY SALES PROGRAM.

GAO RESPONSE: The items comprising the $34 billion include secondary items such as aircraft, tank, ship, and submarine parts; construction materials; clothing and textiles; and medical and dental supplies. The reports submitted for the record in response to a previous question further describe the many types of inventory involved.

Some items are being sold to other countries. An example is on page 73 of GAO/NSIAD-90-100 (Defense Inventory: Growth in Air Force and Navy Unrequired Aircraft Parts). However, many items appear to have little or no potential for future use as described on pages 26-29 of GAO/NSIAD-90-111 (Defense Inventory: Growth in Ship and Submarine Parts). Giving items away would not recoup any of the cost.

QUESTION

YOUR ESTIMATE OF EXCESS SPARES AT DOD IS NOT IN AGREEMENT WITH THE DOD ESTIMATE. A MAJORITY OF THE DIFFERENCE APPEARS TO BE IN A DIFFERENCE OF DEFINITIONS RATHER THAN ACTUAL EXCESSES. WHAT ACTION WOULD YOU RECOMMEND TO REDUCE THE EXCESSES, REGARDLESS OF THE TOTALS? HOW WOULD YOU RECOMMEND TO DISPOSE OF THE EXCESSES? (NOTE: THE GAO HAS CRITICIZED TRASHING, GIVE-AWAYS, AND LOW/BARGAIN SALES IN THE PAST. WHAT'S LEFT?)

GAO RESPONSE: The $34 billion is not GAO's estimate but DOD's reported figure for items "excess to the approved force retention level." In its response dated May 2, 1988, DOD concurred with our report that identified an earlier figure for such items (Defense Inventory: Growth in Secondary Items GAO/NSIAD-88-189BR, July 19, 1988).

In our reports, we emphasize efforts to minimize buying excessively large quantities of items and items with a high risk of becoming obsolete. Once such material is already on hand and paid for, only part of the loss can be recouped. Although our reports did identify much inventory that was unlikely to ever be used, we urge that DOD not dispose of material without following its existing controls to ensure that it is cost effective to do so. Not following the controls would likely cause a repetition of the problems GAO has criticized in the past.

GAO RESPONSE TO QUESTION
ASKED BY SENATOR LOTT

QUESTION

GAO RAISED THE ISSUE OF CONCURRENCY AND CITED THE DDG-51 AS AN EXAMPLE. "ABOUT 50% OF THE LEAD SHIP IS COMPLETE... THE COMBAT SYSTEM AND OTHER TECHNICAL COMPONENTS HAVE TO BE INSTALLED AND INTEGRATED WITHIN THE SHIP."

WHAT YOUR STATEMENT DOES NOT RECOGNIZE IS ONE SPECIFIC, BUT IMPORTANT POINT -- DDG-51 IS NOT NEW TECHNOLOGY! IT IS AN EVOLUTION OF THE AEGIS SYSTEMS CURRENTLY FULLY TESTED, DEPLOYED AND FUNCTIONAL IN THE FLEET TODAY. SIMPLY STATED, -- SHIPS ARE DIFFERENT.

"HAVE YOU CONSIDERED THE UNIQUENESS OF SHIPS IN YOUR COMPREHENSIVE DENOUNCEMENT OF CONCURRENCY IN PROCUREMENT?"

GAO RESPONSE: While the AEGIS system for the DDG-51 is an evolution of technology, it still must be integrated into the ship. In addition, there are several developments on the DDG-51 which are not evolutions of technology. The most notable is the reduced radar cross section whose "developmental" nature is the basis for the Navy justifying changing the cost sharing ratios of the fixed price incentive contract. Also, the collective protection system has never been attempted on a ship like a destroyer and the data multiplex system presents technological challenges.

While the lead ship is not scheduled for delivery until February 1991, there were already seven follow-on ships under contract when we issued our report. The second ship, the DDG-52, was only one percent complete and already estimated at above ceiling costs. DOD was considering additional awards of up to 10 additional ships and has recently awarded 5. Until the lead ship undergoes sea trials later this year and is delivered to the Navy we will not know if retrofits or other changes may be needed. While we recognize that shipbuilding is different in that you cannot build a prototype, we still believe that the Navy should have gone slower in awarding follow-on ships. The Navy now have a total of 13 ships, almost 40 percent of the total program, under construction or contract without the first ship having been delivered.

GAO RESPONSE TO QUESTIONS
ASKED BY SENATOR THURMOND

QUESTION

YOU PROPOSE, BECAUSE OF THE UNCERTAINTIES IN THE B-2 PROGRAM, THAT IT WOULD BE PRUDENT TO REDUCE THE PACE OF FUNDING AND PRODUCTION FOR THE B-2 PROGRAM UNTIL CRITICAL PERFORMANCE ELEMENTS OF THE AIRCRAFT ARE EVALUATED.

WHAT DO YOU CONSIDER THE CRITICAL PERFORMANCE ELEMENTS, AND HOW FAR CAN WE REDUCE THE FUNDING PACE FOR THE B-2 WITHOUT DOING IRREVERSIBLE HARM TO THE PROGRAM?

GAO RESPONSE: Testing critical performance elements means assessing the weapon system's operational performance in a realistic environment to determine if it can do its job. These include integration of the aircraft avionics, subsystem performance, low observable characteristics, and air worthiness in mission critical areas. It has been during this critical performance testing that significant performance problems have been discovered in other advanced weapon systems.

Both Northrop and the Air Force have stated that reductions in projected production funding would result in additional costs, but specific information on the nature and extent of these costs is not readily available. There are a number of options for changing the schedule, and any estimate of the cost implications of such changes would be heavily dependent on the scenario assumed in the estimate.

GAO believes that alternative acquisition strategies should be examined that would minimize the up front investment in the B-2 until all of these critical performance requirements are tested.

QUESTION

YESTERDAY, GENERAL WELCH TESTIFIED IN RESPONSE TO A QUESTION ON THE MX RAIL GARRISON PROGRAM THAT SEVEN YEARS OF RESEARCH AND TESTING HAD BEEN CONDUCTED ON MISSILE TRANSPORTATION SYSTEMS. HE CONSIDERED THE MX PROGRAM A TECHNICAL LOW RISK PROGRAM AND STRESSED THE IMPORTANCE OF CONTINUING ON ITS CURRENT SCHEDULE.

IN YOUR EVALUATION OF THE MX PROGRAM, DID YOU CONSIDER THE AIR FORCE'S PRIOR RESEARCH INTO MOBILE MISSILE SYSTEMS OR DO YOU CONSIDER THAT EARLIER RESEARCH AS IRRELEVANT?

GAO RESPONSE: We certainly do not consider the Air Force's research into mobile missile systems as irrelevant. Our main concern with the MX Rail Garrison is that adequate operational test and evaluation of the complete weapon system be done before proceeding into production. Our concern is based in large part on our past experiences in reviewing mobile systems. That work indicates that the transition from mobile concepts to the acquisition of hardware has resulted in increased size and weight of the launchers. For example, in its initial design concept, the Small ICBMs hard mobile launcher weighed about 120,000 pounds, but as the design matured the launcher grew to between 180,000 and 195,000 pounds. Additionally, as we pointed out in our December 1989 report on the MX Rail Garrison (GAO/NSIAD 90-19), we recognize that the Air Force considers the Rail Garrison program a low-technical risk. But, we also pointed out that the Rail Garrison Test and Evaluation Master Plan identified unique characteristics of the Rail Garrison program that require testing. These include

-- the capability of the train to withstand missile launch efforts (e.g.., impact of ejection from the missile canister and pressures, shock, and heat from first stage ignition),

-- the launch effects on commercial railroad trackbeds and the ability of the train to resume mobile operations after launch,

-- the capability of the guidance and control system to recover specified levels of accuracy following rail transit, and

-- the effects of horizontal basing and rail movement on Peacekeeper missile performance and reliability.

QUESTION

WHAT SUGGESTIONS DO YOU HAVE FOR THIS COMMITTEE ON HOW TO REFOCUS THE DEFENSE DEPARTMENT'S ATTENTION ON THE INVENTORY MANAGEMENT PROBLEM?

IT SEEMS THAT THIS PROBLEM HAS BEEN WITH US AS LONG AS I CAN RECALL AND EVERY EFFORT TO CORRECT THE SITUATION HAS ENDED IN FAILURE.

45

GAO RESPONSE: The core of the problem, in our view, is the Defense Department's management philosophy. DOD needs to change its mind-set and introduce a new culture into the way it manages its supply system. For example, accurate and useful information should be made available to inventory managers so that prudent decisions can be made and vulnerability to mismanagement, fraud, and abuse can be minimized. Management incentives are needed that discourage buying unnecessary inventory and reward cost savings and efficient practices, while satisfying customer demands. What is needed above all, is top management leadership, a real commitment to change, and a specific agenda for improvement.

QUESTION

IN RESPONSE TO THE NEW LIST OF BASE CLOSINGS, THE CHAIRMAN OF THE HOUSE ARMED SERVICES COMMITTEE WILL BE INTRODUCING LEGISLATION TO FORM ANOTHER BASE CLOSURE COMMISSION. ---ALTHOUGH AFTER THE LAST ONE, I EXPECT THAT IT WILL BE DIFFICULT TO FIND ANYONE WHO WANT TO BE A MEMBER OF SUCH A COMMISSION.

AFTER OUR LAST EXPERIENCE AND YOUR REVIEW OF THE COMMISSION'S WORK, WHAT CHANGES WOULD YOU RECOMMEND WITH REGARD TO THE BASE CLOSURE COMMISSION PROCESS?

GAO RESPONSE: In our report Military Bases: An Analysis of the Commission's Realignment and Closure Recommendations (GAO/NSIAD-90-42, November 29, 1989), we recommend a number of process changes which I believe should be included in any future commission or DOD study group.

First, sufficient time should be allowed to collect and analyze data relevant to realignment and closure decisions. Secondly, specific criteria should be developed and used for evaluating the economic impact of realignments and closures. Thirdly, the study methodology should examine costs, savings, and economic impacts on a federal government basis and not just at the Department of Defense level. Finally, a plan should be developed and used that systematically verifies the accuracy of quantitative and qualitative data used in the various phases of analysis. The plan should include he following list of components.

-- uniform guidance defining data requirements and sources,

-- procedures requiring activities participating in the study to certify the accuracy of the data they provide,

-- procedures to check the accuracy of the analyses made from the data provided by the participating activities, and

-- procedures for independently testing the effectiveness of the controls used by the participating activities and overall study group.

GAO RESPONSE TO QUESTIONS ASKED BY SENATOR MCCAIN

QUESTION

WHAT ARE THE REASONS FOR SUPPORTING THE CBO IN ITS ESTIMATE OF A DEFICIT OF OVER $271 BILLION IN FY 1991?

GAO RESPONSE: The General Accounting Office (GAO) used CBO's projection of a federal funds deficit for 1990 and beyond for a number of reasons which follow:

(1) CBO projections are based on current policy and the Office of Management and Budget (OMB) projections assume the President's proposed policy. Because current policy remains in effect until Congress enacts the President's policy, and Congress often does not agree with all of the President's policy proposals, CBO current policy numbers are in our opinion the better base for projections at this time.

(2) CBO's baseline projections have the better track record in being a predictor of the deficit than the President's proposed policy projections. As indicated on table I.1, we compared CBO and OMB "first" projections for the annual deficit, which includes both trust and federal funds, for fiscal years 1980 through 1989 with the actual results that were available 2 years after the initial projections were made. This comparison indicates that CBO baseline projections were closer 70 percent of the time. Furthermore, OMB underestimated the annual deficit in all years shown by an average of $43.3 billion, except for fiscal year 1984 when it overestimated by $18 billion. CBO was off in the ten years by an average of $21.8 billion.

Even using the "second" estimates, CBO still is the better predictor. On table I.2, we compare OMB and CBO deficit projections with the results available 1 year after the projections were made. Again, CBO baseline projections proved to be the better predictor by being closer 78 percent of the time.

Table I.1: A Comparison of OMB and CBO First Projections for the Annual Deficit to Actual Results Available From OMB Two Years Later

Deficit	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
OMB projected	$29	$16	$28	$107	$203	$195	$180	$144	$108	$130
Actual	60	58	111	208	185	212	221	150	155	152
Difference	($31)	($42)	($83)	($101)	$ 18	($17)	($41)	($ 6)	($47)	($22)
CBO projected	$49	$27	$ 73	$176	$212	$208	$215	$181	$169	$176
Actual	60	58	111	208	185	212	221	150	155	152
Difference	($11)	($31)	($38)	($32	$ 27	$ (4)	$ (6)	$ 31	$ 14	$ 24

Table I.2: A Comparison of OMB and CBO Second Projections for the Annual Deficit to Actual Results Available From OMB One Year Later

Deficit	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
OMB projected	$40	$55	$118	$225	$200	$222	$203	$173	$147	$162
Actual	60	58	128	208	185	212	221	150	155	152
Difference	($20)	$(3)	$(10)	$ 17	$ 15	$ 10	$(18)	$23	$ (8)	$10
CBO projected	$44	$61	$129	$210	$203	$214	$208	$174	$157	$155
Actual	60	58	128	208	185	212	221	150	155	152
Difference	($16)	$ 3	$ 1	$ 2	$ 18	$ 2	$(13)	$ 24	$ 2	$ 3

Note:

1. CBO Projections are based on current policy and CBO's economic assumptions, while OMB's projections are based on the President's proposed policy and OMB's economic assumptions.

2. Both on-and off-budget entities are included on table I.1, except for fiscal years 1980, 1981, and 1982, and on table I.2, except for fiscal years 1980 and 1981.

(3) We used CBO's unmasked federal funds deficits because we strongly believe that by including trust funds in the deficit calculation, the government creates the illusion that the federal funds deficit is decreasing when in actuality, the deficit is increasing. This masking effect is evident by an OMB reported decrease of about $3 billion in the annual deficit from fiscal year 1988 to 1989 when the federal funds deficit increased by $22.9 billion.

QUESTION

PROVIDE AN ANALYSIS OF ALL THE FACTORS THAT "MASK" THE TRUE DEFICIT SITUATION.

GAO RESPONSE: The government's general operations deficit over the past ten years has been disguised by using surpluses in the trust funds to offset the operating deficit. In other words, the government borrowed surpluses in trust funds to offset current operating expenses. The annual unified budget deficit amount as reported by the office of Management and Budget (OMB) and the Congressional Budget Office (CBO) only reflects transactions with the public and excludes all transfers from one government account to another. This borrowing is not reflected in the annual deficits since these transactions are within government. This has resulted in the following:

(1) As the Social Security and other trust fund surpluses have continued to increase, annual general operations deficits have become more and more understated. The annual unified budget deficits as reported by OMB and CBO in the last three years have been significantly less than the all time high of $221.1 billion reported in fiscal year 1986. However, this is misleading since the trust fund surplus increased by 100 percent to about $124 billion from fiscal year 1986 to 1989. Accordingly, this trust fund surplus reduced the fiscal year 1989 annual unified budget deficit by about $124 billion. This $124 billion trust fund surplus enabled OMB to report a $3 billion reduction in the unified budget deficit from about $155 billion in fiscal year 1988 to about $152 billion in 1989. However, the unmasked fiscal year 1989 federal funds deficit was $275.8 billion, an increase of $22.9 billion from 1988. (See table II.1)

Table II.1: On- and Off-Budget Trust Fund Surpluses or Deficits and Federal Fund Deficits

Dollars in billions

Fiscal year	Surplus/ (deficit) Off-budget trust funds[a]	Surplus On-budget trust funds	Total trust fund surplus	(Deficit) Federal funds	Unified Budget (Deficit) reported by OMB[b]
1980	$(1.1)	$ 9.9	$ 8.8	$ (82.6)	$ (73.8)
1981	(5.0)	11.8	6.8	(85.8)	(78.9)
1982	(7.9)	14.2	6.3	(134.2)	(127.9)
1983	0.2	22.9	23.1	(230.8)	(207.8)
1984	0.3	32.6	32.9	(218.2)	(185.3)
1985	9.4	44.8	54.2	(266.4)	(212.3)
1986	16.7	45.1	61.8	(283.0)	(221.1)
1987	19.6	53.1	72.7	(222.4)	(149.7)
1988	38.8	59.0	97.8	(252.9)	(155.1)
1989	52.8	71.1	123.9	(275.8)	(152.0)

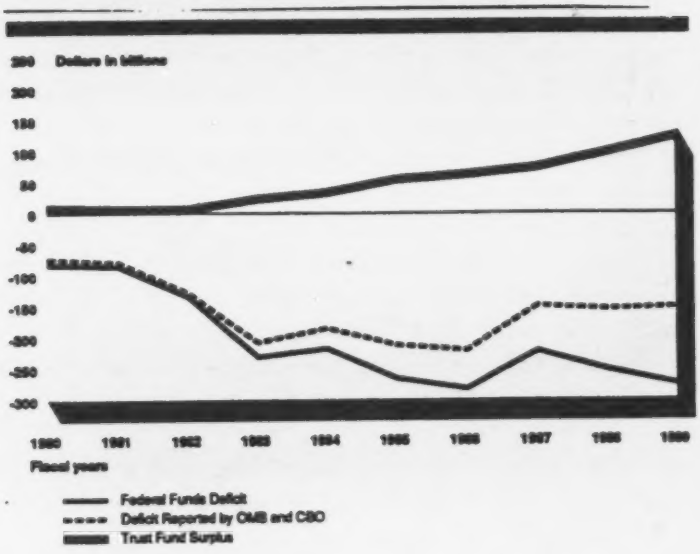
Note:

[a]Off-budget trust funds amounts include only Social Security Trust Funds. GRH required that Social Security Trust Funds be off-budget as of 1986. In order to provide consistent comparisons over time, the data provided by OMB for all previous years classify Social Security Trust Funds as off-budget.

[b]For purposes of this table, unified budget deficit includes both on- and off-budget entities.

Figure I.1 on the following figure provides a graphic representation of the trust fund surpluses as well as both the federal funds deficit and the masked deficit as reported by OMB.

Figure I.1: Trust Fund Surplus, Federal Funds Deficit, and Deficit as Reported by OMB and CBO



(2) The Social Security Trust Funds surplus, the largest individual amount, has increased by 216 percent from $16.7 billion in fiscal year 1986 to $52.8 billion in 1989. Furthermore, this surplus is projected to increase to $137.6 billion by fiscal year 1995. This allows OMB to project an annual unified budget surplus of $9.4 billion for fiscal year 1995 the same year that an unmasked federal funds deficit will be $211 billion according to OMB.

(3) Since fiscal year 1983, federal fund deficits have exceeded $200 billion each year. The federal funds deficit for fiscal year 1989 was second only to the 1986 unified budget deficit, the year before the Gramm-Rudman-Hollings (GRH) deficit reduction mandates.

Table II.1 provides details of both on- and off-budget trust fund surpluses or deficits as well as federal fund deficits over the past ten years.

QUESTION

PROVIDE EVERY DETAIL OF YOUR ANALYSIS LEADING TO THE CONCLUSION THAT, "IF WE PROCEED ALONG THIS SAME PATH, WE CAN EXPECT THE NATIONAL DEBT TO INCREASE TO $4.5 TRILLION BY FISCAL YEAR 1995."

GAO RESPONSE: The gross national debt increases annually by the amount of the federal funds deficit. Therefore, this annual increase equals the unmasked result of a fiscal year's transactions. Deficits are financed by borrowing, and the gross debt includes borrowing from both federal trust funds and the public.

We used CBO's projection for the fiscal year 1995 gross debt of $4.5 trillion, while OMB projects a fiscal year 1995 gross debt of $3.9 trillion. As stated in our response to the first part of this question, we rely on CBO projections because CBO assumes current policy, and our comparison of CBO and OMB borrowing projections indicate that CBO is a better predictor. For example, for fiscal years 1986 through 1989, OMB underestimated borrowing by an average of $38 billion, while CBO was closer to actual in all of the years except for fiscal year 1987.

The difference between CBO and OMB's national debt projections is their projections of the federal funds deficit. CBO's six year federal funds deficit total is $1.7 trillion and OMB's six year projection total is $1.2 trillion. The gross debt balance at the end of fiscal year 1989 was $2.8 trillion. This $2.8 trillion plus the projected deficit of $1.7 trillion equals CBO's projected $4.5 trillion. OMB's projected $1.2 trillion federal funds deficit added to the outstanding $2.8 trillion equals $3.9 trillion, adjusted for rounding. CBO projects an average annual federal funds deficit and gross debt increase of $287 billion and OMB projects an average of $207 billion over the following six fiscal years. Tables on the following page provide details of these projections.

Table III.1: CBO's Projected Trust Fund Surpluses and Federal Funds Deficits

Dollars in billions

Fiscal year	Trust funds surplus	Federal funds (deficit)	Unified budget (deficit)
1990	$132	($270)	($138)
1991	136	(273)	(137)
1992	145	(280)	(135)
1993	157	(297)	(140)
1994	170	(299)	(129)
1995	185	(303)	(118)
Total	$925	($1,722)	($797)

Table III.2: OMB's Projected Trust Fund Surpluses and Federal Funds Deficits

Dollars in billions

Fiscal year	Trust fund surplus	Federal funds (deficit)	Unified budget surplus/ (deficit)
1990	$123	($247)	($124)
1991	151	(214)	(63)
1992	167	(192)	(25)
1993	186	(181)	6
1994	207	(196)	11
1995	221	(211)	9
Total	$1,055	($1,241)	($186)

Note:

1. Numbers may not add due to rounding.

2. CBO projections are based on current policy and CBO's economic assumptions while OMB's projections are based on the President's proposed policy and OMB's economic assumptions.

Another approach to answering your question is to examine the trends and absolute size of spending categories which have been reduced by governmental receipts earmarked for specific programs, then determine relative contributions to the existing deficit. The rationale for this approach is that certain categories are partially financed by revenues dedicated to those programs. After reducing the categories by these earmarked revenues, the remainder of the categories are those that compete for the "pot" of general, or unearmarked, receipts.

Social insurance contributions and taxes such as FICA taxes, employee retirement contributions, and unemployment taxes are earmarked receipts which can be identified as dedicated to the Entitlements and Other Mandatory Outlays category. For the period 1980 to 1989, from 52 percent to 66 percent of the Entitlement category outlays have been covered by these receipts.

Earmarked excise tax receipts such as Highway, Airport, and Inland Waterway, can be categorized as dedicated receipts to the Non-Defense Discretionary category. This trust revenue has represented from four percent to eleven percent of the Non-Defense Discretionary spending over the past decade. Table 2 shows each category's net outlays after reducing gross outlays for those categories by earmarked receipts.

Table 2.

OUTLAYS FOR MAJOR SPENDING CATEGORIES, FISCAL YEARS 1980 - 1989
(IN BILLIONS OF DOLLARS)

SPENDING CATEGORY	FISCAL YEAR										DOLLAR CHANGE FROM 1980 TO 1989	% GROWTH FROM 1980 TO 1989
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989		
NATIONAL DEFENSE	134.0	157.5	185.3	209.9	227.4	252.7	273.4	282.0	290.4	303.5	169.5	126.49%
ENTITLEMENTS AND OTHER MANDATORY OUTLAYS	119.4	137.7	154.5	189.0	186.3	172.1	179.9	189.1	198.4	184.2	64.8	54.27%
NON-DEFENSE DISCRETIONARY SPENDING	148.8	164.1	149.9	144.8	140.8	150.9	166.3	167.9	164.2	169.7	20.9	14.05%
NET INTEREST	52.5	68.7	85.0	89.8	111.1	129.4	136.0	138.8	151.7	168.9	116.4	221.71%
TOTAL OUTLAYS	454.7	528.0	573.8	634.3	662.6	712.2	736.6	737.2	768.7	826.3	371.8	81.73%
OFFSETTING RECEIPTS	(30.3)	(30.2)	(37.2)	(48.1)	(45.3)	(48.8)	(47.0)	(54.3)	(58.9)	(84.2)	(33.9)	111.88%
NET OUTLAYS	424.4	498.8	536.6	586.2	597.3	664.2	689.6	683.8	710.7	782.1	337.7	79.57%

NOTE: The outlays for Entitlements and Non-Defense Discretionary categories have been reduced by dedicated receipts as computed by the Office of Management and Budget. CBO does not provide the detail needed to make this computation. Insignificant discrepancies may occur because OMB data for dedicated receipts receipts differs from CBO data.

SOURCE: Congressional Budget Office's THE ECONOMIC AND BUDGET OUTLOOK: FISCAL YEARS 1991-1995, page 139

By comparing the absolute size of the adjusted total budget outlays to gross total budget outlays, lower growth is evident. Gross Total Outlays had nearly doubled over the past ten years, whereas Adjusted Total Outlays rose by about 80 percent. However, the Entitlements and and Non-Defense Discretionary categories show much smaller growth:

Category	Gross % Growth	Adjusted % Growth
Entitlements	96.1%	54.3%
Non-Defense Discretionary	21.2%	14.1%

Other categories remain the same.

Each category's relative percentage to Total Outlays is depicted in Figure 2. The Entitlements and Other Mandatory Outlays category dropped from a 47.1 percent average to 26.2 percent average. Entitlement outlays peaked in 1983 at 32.3 percent, due to a shortfall in social security funding that year. Entitlements as a percent of Total Outlays has leveled off since 1984. National Defense outlays ranged from 31.6 percent in 1980 to a high of 41.3 percent in 1987, averaging 37.8 percent over the decade. The Non-Defense Discretionary category showed a similar trend as previously stated, but with

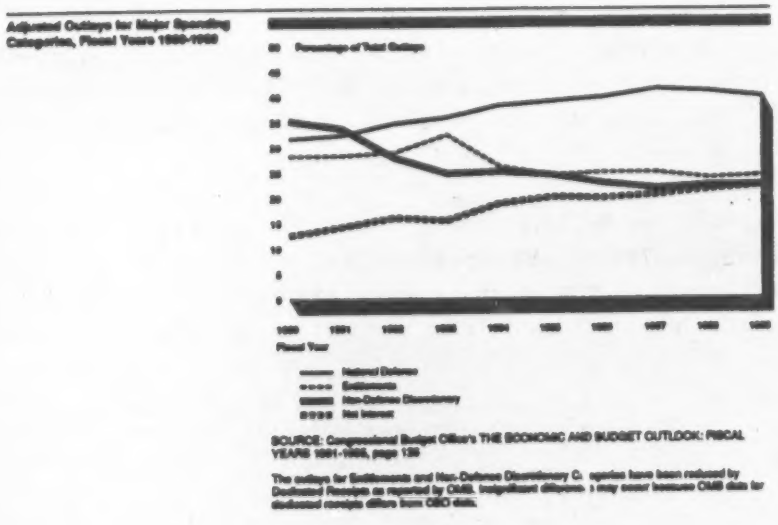
lesser magnitude, comprising an average of 19 percent of Total Outlays. Net Interest exhibited steeper growth, ranging from 12.4 percent to 22.2 percent, and averaging 18.5% of Total Outlays.

In summary, if dedicated receipts are offset against outlays, the categories' average relative contribution to the deficit over the ten-year span is as follows:

Entitlements	26.2%
National Defense	37.8%
Non-Defense Discretionary	25.2%
Net Interest	18.5%
Offsetting Receipts[2]	-7.7%
Adjusted Net Outlays	100.0%

2 Undistributed Offsetting Receipts are deducted from Total Outlays to arrive at Net Outlays. They are not earmarked to any category.

Figure 2.



SOURCE: Congressional Budget Office's THE ECONOMIC AND BUDGET OUTLOOK: FISCAL YEARS 1991-1995, page 139

The outlays for Entitlements and Non-Defense Discretionary O. agencies have been reduced by Dedicated Receipts as reported by OMB. Insignificant differences may occur because OMB data for dedicated receipts differs from CBO data.

QUESTION

PLEASE PROVIDE A CHRONOLOGICAL AND ANNOTATED BIBLIOGRAPHY OF ALL GAO WORK ANALYZING THE RELATIVE IMPACT OF CIVIL AND DEFENSE SPENDING ON THE BUDGET DEFICIT SINCE 1975, SUMMARIZING THE CONCLUSIONS INVOLVED.

GAO RESPONSE: From fiscal year 1975 through fiscal year 1989, GAO issued over 13,800 reports, three-fourths devoted to civil activities and the remaining one-fourth devoted to defense issues. Our reports, whether they are directed to improving revenue collections, improved program efficiency, or reductions in unnecessary outlays, are directed to the program to which the report is directed. We have not, to our knowledge, issued reports that have analyzed the extent to which civil or defense spending has impacted on the budget deficit in relationship to the other, except for our Gramm-Rudman-Hollings (GRH) report for fiscal years 1986 through 1991.

In my testimony before this committee, I identified a number of areas for possible reduction in defense outlays. They indicate ways where reductions in defense outlays could help alleviate the deficit. Likewise, GAO has testified and reported on ways to reduce outlays in civil programs which would also help alleviate the deficit. We cannot assign a relative deficit impact on either defense or civil programs. Suffice it to say that each dollar of defense savings counts the same toward deficit reduction as does a dollar of civil program savings.

Therefore, we believe that providing an annotated bibliography and conclusion of GAO reports since 1975 would not serve any useful purpose. However, a small sample of GAO reports on civilian programs where cost reductions are possible follows.

GAO/HRD-86-25 **Medicare: Past Overuse of Intensive Care Services Inflates Hospital Payments, March 7, 1986.**

GAO found that because 23 percent of intensive care patients did not need such care, the Medicare cost base increased $3.2 billion. Unless Health and Human Services adjusts the basis on which it computes prospective rates, hospitals will be reimbursed at higher rates.

GAO/RCED-86-17 Benefit Overpayments: Recoveries Could Be Increased in the Food Stamp and AFDC Programs, March 14, 1986.

The use of recoupment in the Food Stamp Program could increase collections of overpayments by about $1.4 million per month.

GAO/HRD-87-43 Medicare: More Hospital Costs Should Be Paid by Other Insurers, January 29, 1987

In 1985, Medicare paid $527 million in hospital costs that other insurers should have paid.

GAO/RCED-87-164 Mineral Revenues: Coal Lease Readjustment Problems Remedied but Not All Revenue Is Collected, August 25, 1987

Between 1976 and 1984, the Bureau of Land Management failed to readjust coal leases on their anniversary dates and as a result, lost $187 million in royalty and rent payments. Inadequate financial management controls have led to a failure to collect $12.6 million in royalties and rent.

GAO/RCED-88-7 Crop Insurance: Overpayment of Claims by Private Companies Costs the Government Millions, November 20, 1987

Loss adjustments done by private reinsured companies, with minimal oversight by the Federal Crop Insurance Corporation, resulted in millions of dollars in overpayments. Of $9.4 billion in claims reviewed, $3 billion (31 percent) were overpaid.

GAO/AFMD-88-23 Debt Collection: More Aggressive Action Needed To Collect Debts Owed By Health Professionals, February 2, 1988

Lack of comprehensive debt management have hindered the Department of Health and Human Service's Health Resources and Services Administration attempts to collect delinquent debts.

GAO/RCED-88-118 Microwave Landing Systems: Additional Systems Should Not Be Procured Unless Benefits Proven, May 16, 1988

Additional microwave landing systems should not be procured unless its operational and economic benefits have been adequately demonstrated.

GAO/RCED-88-129 Nuclear Waste: DOE Should Base Disposal Fee Assessment on Realistic Inflation Rate, July 22, 1988.

The Department of Energy should have proposed a fee increase, based on the inflation rate, to ensure that revenues would cover program costs. Without the increase, end of program deficits are estimated to be $21 billion to $76 billion.

GAO/HRD-88-72 Guaranteed Student Loans: Lenders' Interest Billings Often Result in Overpayments, August 31, 1988.

The Department of Education's inadequate oversight of lenders billings for interest subsidy payments for guaranteed student loans could cost the government millions of dollars in overpayments.

GAO/HRD-89-33 Medicare: Indirect Medical Education Payments Are Too High, January 5, 1989.

Add on Medicare payments to teaching hospitals for indirect costs of medical education are too high.

GAO/HRD-89-5 Unemployment Insurance: Opportunities to Strengthen the Tax Collection Process, June 8, 1989.

Improved state collection functions could help alleviate delinquent unemployment tax payments from private employers that passed $1.3 billion in September 1987.

GAO/AFMD-89-62 Thrift Failures: Costly Failures Resulted From Regulatory Violations and Unsafe Practices, June 16, 1989

Serious internal control weaknesses contributed to 26 thrift failures, half of the losses in a 21 month period. Indications of fraud or insider abuse existed at all of the failed thrifts.

GAO/AFMD-89-59 Federal Financing Bank: The Government Incurred a Cost of $2 Billion on Loan Prepayments, August 22, 1989.

The Federal Financing Bank incurred an economic cost of about $2 billion because legislation authorized specific Bank borrowers to prepay loans at less that the current Treasury market value.

GAO/GGD-89-130 Postal Service: Sites for New Post Offices May Be Larger Than Needed, September 29, 1989

The Postal Service purchased sites, without adequate documentation, that exceeded operational requirements.

G-R-H Reports

GAO/OCG-86-1 Budget Reductions for FY 86 Balanced Budget Emerging Deficit Control Act of 1985, January 1986

GAO/OCG-86-2 Balance Budget and Emergency Control Act of 1985: Compliance Report for FY 1986, March 31, 1986

GAO/OCG-86-4 Budget Reductions for FY 87: Review of Initial OMB/CBO Report Under the Deficit Control Act, September 1986

GAO/OGC-88-1	Compliance With the Balanced Budget and Emergency Deficit Control Act of 1985, December 15, 1987
GAO/AFMD-89-32	Compliance With the Balanced Budget and Emergency Deficit Control Act of 1985, November 15, 1988
GAO/AFMD-90-40	Deficit Reductions for Fiscal Year 1990: Compliance With the Balanced Budget and Emergency Deficit Control Act of 1985, November 15, 1989

QUESTION

PLEASE PROVIDE THE FULLEST POSSIBLE QUANTITATIVE AND QUALITATIVE ANALYSIS OF OUR CURRENT VIEWS OF THE EXTENT TO WHICH THE TRENDS AND ABSOLUTE SIZE OF DEFENSE, CIVIL SPENDING, AND ENTITLEMENT PROGRAMS HAVE CONTRIBUTED TO THE EXISTING DEFICIT.

GAO RESPONSE: Two approaches are considered. First, we present an analysis of outlays in the major spending categories. Second, we analyze the same spending categories after reducing each category by receipts earmarked to finance programs in that category. Our analyses involve the various major spending categories including: National Defense; Entitlements and Other Mandatory Outlays; Non-Defense Discretionary Spending; and Net Interest. Analysis of actual outlays for the 10-year period 1980-1989 follow.

The absolute size of total budget outlays has almost doubled in the past ten years. From 1980 to 1989 actual outlays increased by 93 percent. Of the individual components, the Net Interest increase showed the most spectacular growth at over 220 percent. Defense outlays increased 126 percent, and Entitlements grew 96 percent. Non-Defense Discretionary spending showed a modest 21 percent increase over this time period. (See Table 1)

Table 1.

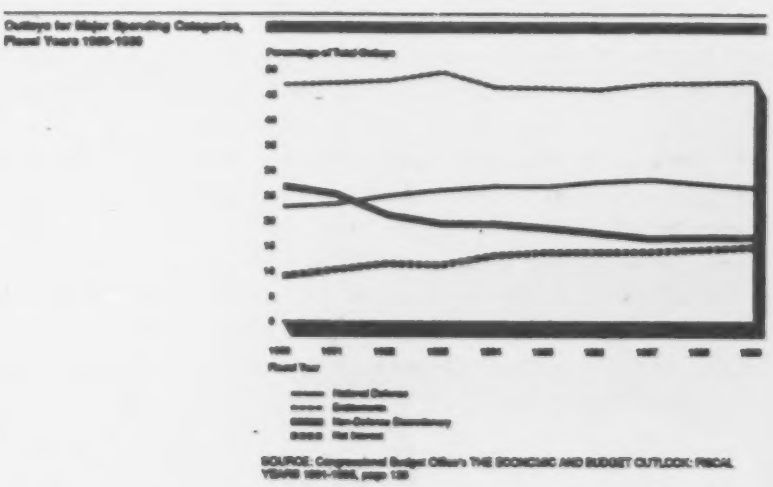
OUTLAYS FOR MAJOR SPENDING CATEGORIES, FISCAL YEARS 1980 - 1989
(IN BILLIONS OF DOLLARS)

SPENDING CATEGORY	FISCAL YEAR										DOLLARS CHANGE FROM 1980 TO 1989	% CHANGE FROM 1980 TO 1989
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989		
NATIONAL DEFENSE	134.0	157.5	185.3	209.9	227.4	252.7	273.4	282.0	290.4	303.5	169.5	126.49%
ENTITLEMENTS AND OTHER MANDATORY OUTLAYS	277.2	309.1	356.0	388.0	394.7	437.2	464.0	472.4	502.7	543.0	265.4	96.10%
NON-DEFENSE DISCRETIONARY SPENDING	157.0	170.9	186.0	196.2	183.9	174.9	173.1	169.1	177.2	191.0	33.4	21.19%
NET INTEREST	52.5	68.7	80.0	90.0	111.3	130.4	136.0	130.0	151.7	169.9	116.4	221.71%
TOTAL OUTLAYS	621.3	717.4	792.9	884.0	887.1	994.3	1027.4	1050.1	1122.0	1207.0	585.7	94.27%
OFFSETTING RECEIPT	(30.3)	(36.3)	(37.2)	(40.1)	(45.3)	(48.0)	(47.0)	(54.3)	(50.0)	(64.2)	(33.9)	111.88%
NET OUTLAYS	591.0	678.2	745.7	843.4	841.8	946.3	980.4	1,003.9	1,084.0	1,142.8	541.8	91.37%

SOURCE: Congressional Budget Office's THE ECONOMIC AND BUDGET OUTLOOK: FISCAL YEARS 1991-1995, page 130

The relative percentage of each of the categories to Total Outlays is portrayed in Figure 1. The Entitlements and Other Mandatory Outlays category has remained relatively stable throughout the past decade, averaging 47.1 percent, and rising from 46.9 percent in 1980 to 47.6 percent in 1989. National Defense outlays peaked in 1987 at 28.1 percent, and averaged 26.3 percent overall. Defense outlays in 1980 were 22.7 percent and in 1989 were 26.6 percent. The Non-Defense Discretionary Spending category has shown the most dramatic change. This category has steadily decreased from a high of 26.7 percent in 1980 to 16.7 percent in 1989, averaging 19.1 percent for the decade. The Net Interest category has progressively grown from 8.9 percent in 1980 to 14.8 percent of Total Outlays, an average 12.8 percent for the decade.

Figure 1.



SOURCE: Congressional Budget Office's THE ECONOMIC AND BUDGET OUTLOOK: FISCAL YEARS 1991-1995, page 139

In summary, assuming that each spending category contributed to the deficit in the same proportion as it is of Total Outlays, each category's average relative contribution to the deficit over the ten year span would be as follows:

Entitlements	47.1%
National Defense	26.3%
Non-Defense Discretionary	19.1%
Net Interest	12.8%
Offsetting Receipts [1]	-5.3%
Net Outlays	100.0%

[1] Undistributed Offsetting Receipts are deducted from Total Outlays to arrive at Net Outlays.

QUESTION

PLEASE PROVIDE AN ANALYSIS OF YOUR VIEWS OF THE PROBABLE RELATIVE IMPACT ON FUTURE TRENDS IN THE DEFICIT THROUGH FY 1995. YOU ALSO ASKED THAT THE ANALYSIS EXPLICITLY TAKE ACCOUNT OF THE BUSH ADMINISTRATION PLANS TO CUT DEFENSE SPENDING AS A PERCENT OF TOTAL FEDERAL SPENDING AND THE GNP THROUGH FY 1995.

GAO RESPONSE: Two approaches are considered. First we present an analysis of outlays in the major spending categories. Second, we analyze the same spending categories after reducing each category by receipts earmarked to finance programs in that category. Our analyses involve the major spending categories of: National Defense; Entitlements and Other Mandatory Outlays; Non-Defense Discretionary Spending; and Net Interest. Both the Congressional Budget Office's (CBO) Baseline Projections and the Office of Management and Budget's (OMB) Proposed Budget for the period 1990 to 1995 are used in the analyses which follow.

CBO predicts that, based on current law, Net Outlays will increase by $349 billion, almost 29 percent, from 1990 to 1995. National Defense is predicted to grow 20 percent and Net Interest by 16 percent. CBO anticipates that the Entitlements category will experience the largest absolute increase, $225 billion, or 38 percent. CBO is predicting the budget deficits will continue throughout the period, but decline to $117 billion by 1995. The deficit decline is primarily produced by a 35 percent growth in Total Receipts. (See Table 1)

Table 1.

[illegible] PROJECTIONS BY SPENDING CATEGORY
(IN BILLIONS OF DOLLARS)

SPENDING CATEGORY	1990	1991	FISCAL YEAR 1992	1993	1994	1995	PROJECTED % GROWTH FROM 1990 TO 1995
NATIONAL DEFENSE	297.0	307.0	318.0	308.0	345.0	356.0	19.53%
ENTITLEMENTS AND OTHER MANDATORY OUTLAYS	504.0	624.0	664.0	715.0	756.0	800.0	58.53%
NON-DEFENSE DISCRETIONARY SPENDING	205.0	219.0	229.0	237.0	245.0	254.0	23.90%
NET INTEREST	180.0	186.0	192.0	198.0	206.0	200.0	10.11%
TOTAL OUTLAYS	1200.0	1336.0	1403.0	1458.0	1553.0	1637.0	30.58%
OFFSETTING RECEIPTS	-60.0	-60.0	-63.0	-66.0	-69.0	-72.0	20.00%
NET OUTLAYS	1200.0	1275.0	1340.0	1417.0	1484.0	1565.0	30.94%
TOTAL RECEIPTS	1067.0	1137.0	1204.0	1277.0	1365.0	1430.0	34.77%
DEFICIT OR SURPLUS	-133.0	-138.0	-136.0	-140.0	-119.0	-117.0	-15.63%

SOURCE: Congressional Budget Office's
THE ECONOMIC AND BUDGET OUTLOOK: FISCAL YEARS 1991 - 1995, page 80

The President's Budget, based on proposed policy, predicts a radically different scenario with budget surpluses anticipated for fiscal years 1993 through 1995. The National Defense category is predicted to grow by 7.5 percent from 1990 to 1995. Net Interest outlays are predicted to decline by 22 percent over the period. The Entitlements category anticipates the largest absolute increase: $276 billion, and growth of over 49 percent. Total Receipts are expected to increase by 38.5 percent. Total Receipts' increase combined with the low growth in National Defense outlays and a decrease in Net Interest outlays are anticipated to produce annual budget surpluses starting in 1993. (See Table 2)

Table 2.

[illegible] PROPOSED BUDGET TOTALS BY CATEGORY
(IN BILLIONS OF DOLLARS)

SPENDING CATEGORY	1990	1991	FISCAL YEAR 1992	1993	1994	1995	PROJECTED % GROWTH FROM 1990 TO 1995
NATIONAL DEFENSE	306.3	303.3	300.2	311.0	315.7	310.0	7.00%
ENTITLEMENTS AND OTHER MANDATORY OUTLAYS	562.5	640.7	682.1	674.7	701.0	838.0	49.13%
NON-DEFENSE DISCRETIONARY SPENDING	201.0	213.0	225.0	237.3	232.4	236.0	17.31%
NET INTEREST	178.0	173.0	163.0	157.0	147.0	138.1	-22.42%
TOTAL OUTLAYS	1238.0	1270.0	1317.6	1379.0	1447.0	1520.0	22.75%
OFFSETTING RECEIPTS	-38.0	-46.3	-46.0	-48.0	-48.7	-48.0	26.26%
NET OUTLAYS	1197.2	1223.6	1271.5	1321.0	1398.1	1477.1	23.39%
TOTAL RECEIPTS	1073.0	1170.3	1208.4	1327.0	1408.0	1488.3	38.68%
DEFICIT OR SURPLUS	-123.7	-48.3	-63.1	5.8	10.0	8.2	-107.68%

SOURCE: Office of Management and Budget's
BUDGET OF THE UNITED STATES GOVERNMENT: FISCAL YEAR 1991, page A-143

The average relative percentage of both OMB and CBO estimates for each category to Total Outlays over the period 1990-1995 appear to be similar.

	CBO	OMB
Entitlements	50.2%	51.2%
National Defense	23.6%	23.5%
Non-Defense Discretionary	16.8%	16.9%
Net Interest	14.2%	12.1%
Offsetting Receipts [1]	-4.7%	-3.8%
	100.0%	100.0%

Despite the similarity of the period's averages, OMB and CBO are predicting different trends. (CBO estimates are in Figure 1; OMB budget estimates in Figure 2.) CBO estimates that the Entitlements category will grow by four percent of Net Outlays, whereas OMB expects Entitlements to grow by ten percent. Both OMB and CBO predict a decline in National Defense outlays as a percent of net outlays. Non-Defense Discretionary spending is depicted as remaining virtually unchanged by both. CBO anticipates a slight decrease in Net Interest's portion of Total Outlays of 1.5 percent, whereas OMB predicts a downward trend of five percentage points over the period.

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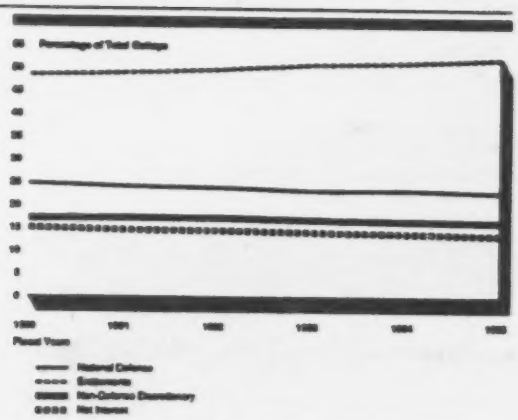
[1] Undistributed Offsetting Receipts are deducted from Total Outlays to arrive at Net Outlays.

Figure 1.

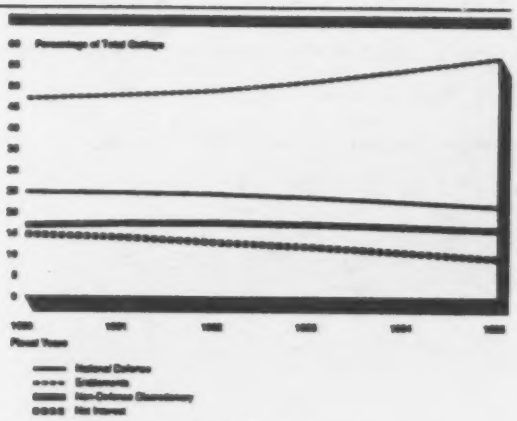
CBO Baseline Projections By Spending Category (As A Percentage of Net Outlays)



SOURCE: Congressional Budget Office's THE ECONOMIC AND BUDGET OUTLOOK: FISCAL YEARS 1991-1995, page 60.

Figure 2.

The President's Proposed Budget Totals By Category



SOURCE: Office of Management and Budget's BUDGET OF THE UNITED STATES GOVERNMENT FISCAL YEAR 1991, page A-149

CBO's and OMB's projected National Defense outlays as a percentage of Total Outlays appear similar. (See Figure 3) But OMB's estimate illustrates a greater trend of decreased outlays. When comparing CBO's forecast of National Defense's absolute growth to OMB's forecast, as shown in Figure 4, the predictions vary substantially. Under current law, CBO predicts National Defense to grow from $297 billion in 1990 to $355 billion in 1995 -- a $58 billion increase. OMB, based on Presidential policy, predicts outlays of $296.3 billion in 1990 to grow only to $318.6 billion in 1995, a $22.3 billion increase. As a percentage of GNP over the period, CBO predicts a decline from 5.4 percent in 1990 to 4.8 percent in 1995, an 11 percent decrease. OMB's projection for the National Defense category as a percent of GNP anticipates a greater decrease than CBO: from 5.4 percent in 1990 to 4.2 percent in 1995, almost a 23 percent decline.

Figure 3.

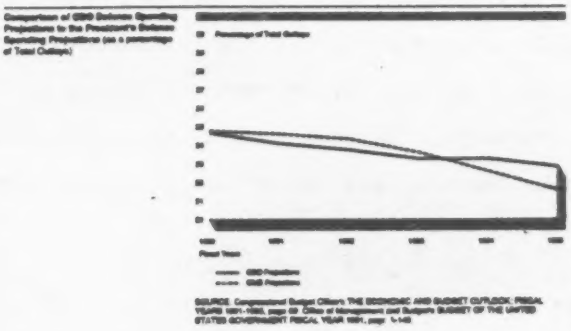
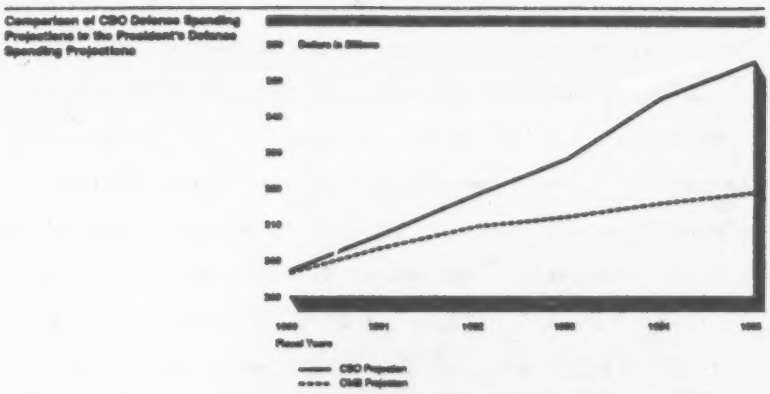


Figure 4.


Comparison of CBO Defense Spending Projections to the President's Defense Spending Projections
Dollars in Billions
Fiscal Years
CBO Projection
OMB Projection

SOURCE: Congressional Budget Office's THE ECONOMIC AND BUDGET OUTLOOK: FISCAL YEARS 1991-1995, page 60. Office of Management and Budget's BUDGET OF THE UNITED STATES GOVERNMENT FISCAL YEAR 1991, page A-149.

Another approach to answering your question is to examine both quantitatively and qualitatively the relative impact of spending categories which have been reduced by earmarked governmental receipts, on future trends in the deficit through FY1995. The rationale for this approach, as in the previous question, is that certain categories of outlays are partially financed by revenues dedicated to those programs. After reducing the categories by these earmarked revenues, the remainder of the categories are those that compete for the "pot" of general, or unearmarked, receipts.

Social insurance contributions and taxes such as FICA taxes, employee retirement contributions, and unemployment taxes are earmarked receipts dedicated to financing programs in the Entitlement category. Using CBO estimates for the period 1990 to 1995, the Entitlement category receipts will amount to approximately 65 percent of the Entitlement outlays. OMB estimates that from 64.7 percent to 72.3 percent of Entitlements will be covered by Social insurance receipt during the period.

Excise tax receipts such as those dedicated to Highways, Airports, and the Inland Waterway, are dedicated receipts applicable to the Non-Defense Discretionary category. Using CBO data, we calculate that from 9.3 percent to 11.8 percent of Non-Defense Discretionary outlays will be financed from trust receipts over the next six fiscal years. Using OMB data, we calculate that from 10.3 percent to 11.2 percent will be financed by dedicated trust receipts. After reducing gross outlays for those categories by earmarked receipts the following tables show each category's net outlays.

Table 3.

CBO BASELINE PROJECTIONS BY SPENDING CATEGORY, AS ADJUSTED
(IN BILLIONS OF DOLLARS)

SPENDING CATEGORY	FISCAL YEAR 1990	1991	1992	1993	1994	1995	PROJECTED % GROWTH FROM 1990 TO 1995
NATIONAL DEFENSE	297.0	307.0	319.0	330.0	345.0	356.0	19.53%
ENTITLEMENTS AND OTHER MANDATORY OUTLAYS	196.0	212.0	227.0	253.0	263.0	283.0	44.39%
NON-DEFENSE DISCRETIONARY SPENDING	180.0	196.2	207.6	214.0	222.2	230.5	27.63%
NET INTEREST	180.0	180.0	192.0	190.0	204.0	209.0	16.11%
TOTAL OUTLAYS	853.9	895.2	944.6	984.9	1035.2	1077.5	26.19%
OFFSETTING RECEIPTS	-60.0	-60.0	-63.0	-65.0	-68.0	-72.0	20.00%
NET OUTLAYS	723.9	840.2	881.6	919.9	966.2	1006.5	26.00%
TOTAL RECEIPTS	864.9	792.2	745.6	780.9	837.2	888.5	35.07%
DEFICIT OR SURPLUS	-130.0	-130.0	-138.0	-140.0	-139.0	-117.0	-19.53%

SOURCE: Congressional Budget Office's
THE ECONOMIC AND BUDGET OUTLOOK: FISCAL YEARS 1991 - 1995, page 60

NOTE: The Entitlements and Non-Defense Discretionary categories have been reduced by dedicated receipts as reported by OMB. CBO does not provide this level of detail. Insignificant differences may occur because OMB data for dedicated receipts differs from CBO data. Total Receipts has also been reduced by amounts earmarked for specific categories.

Table 4.

PRESIDENT'S PROPOSED BUDGET TOTALS BY CATEGORY, AS ADJUSTED
(IN BILLIONS OF DOLLARS)

SPENDING CATEGORY	FISCAL YEAR 1990	1991	1992	1993	1994	1995	PROJECTED % GROWTH FROM 1990 TO 1995
NATIONAL DEFENSE	296.3	303.3	300.2	311.9	315.7	319.0	7.63%
ENTITLEMENTS AND OTHER MANDATORY OUTLAYS	177.1	198.3	172.4	185.3	197.3	206.3	97.31%
NON-DEFENSE DISCRETIONARY SPENDING	188.8	191.5	188.1	202.7	207.0	210.1	19.21%
NET INTEREST	175.6	173.0	183.5	187.0	167.9	138.1	-22.48%
TOTAL OUTLAYS	838.8	836.1	844.2	884.9	887.0	881.1	15.08%
OFFSETTING RECEIPTS	-36.8	-48.2	-45.9	-48.0	-49.7	-52.9	36.34%
NET OUTLAYS	791.0	788.9	798.3	815.0	866.1	888.2	14.08%
TOTAL RECEIPTS	867.3	738.7	773.2	821.7	866.8	917.4	37.40%
DEFICIT OR SURPLUS	-133.7	-83.2	-25.1	6.8	10.5	9.2	-107.64%

SOURCE: Office of Management and Budget's
BUDGET OF THE UNITED STATES GOVERNMENT FISCAL YEAR 1991, page A-143

Using CBO data, based on current law, Total Outlays will increase by 26 percent from 1990 to 1995, after reducing Entitlements and Non-Defense Discretionary outlays by earmarked receipts. The Entitlements category is projected to grow $87 billion, or 44.4 percent. Without the earmarked receipt adjustment, Entitlements is projected to grow by $225 billion or 38 percent. CBO also projects slightly quicker growth for adjusted Non-Defense Discretionary: from 23.9 percent to 27.4 percent. (See Table 3)

The President's Budget, based on proposed policy, and after adjusting for dedicated receipts, projects similar changes in Entitlements and Non-Defense Discretionary categories. Total Outlays increases by 15.8 percent. Entitlements will grow 67.3 percent over the period and Non-Defense Discretionary has a 16.2 percent estimated growth, with other categories remaining the same. (See Table 4)

To summarize the adjusted budgets:

Category	CBO % Growth	OMB % Growth
National Defense	19.5%	7.5%
Entitlements	44.4%	67.3%
Non-Defense Discretionary	27.4%	16.2%
Net Interest	16.1%	-22.5%
Offsetting Receipts[2]	20.0%	36.4%
	100.0%	100.0%

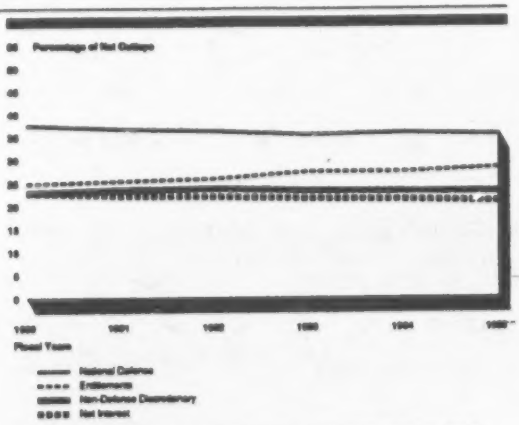
[2] Undistributed Offsetting Receipts are deducted from Total Outlays to arrive at Net Outlays. They are not earmarked to any category.

The relative percentage of the categories to Total Net Outlays depict each category's contribution to the anticipated deficits/surpluses. (CBO estimates as adjusted in Figure 5; OMB budget estimates as adjusted in Figure 6) Both CBO and OMB project National Defense outlays to remain stable at 36 to 37 percent of Total Net Outlays. Although both project growth in Entitlements, OMB projects a sharper increase of over ten percent

from 1990 to 1995. Both CBO and OMB project the adjusted Non-Defense Discretionary category to remain smooth throughout the period at approximately 23 to 24 percent of Total Net Outlays. CBO anticipates Net Interest will remain stable at an average 22 percent, whereas OMB predicts a decline in Net Interest from 22 percent to 15 percent. The deficit and surplus predictions will not change from those previously stated because the dedicated receipt adjustment has no effect on the final balance.

Figure 5.

CBO Adjusted Baseline Projections By Spending Category (As A Percentage Of Net Outlays)

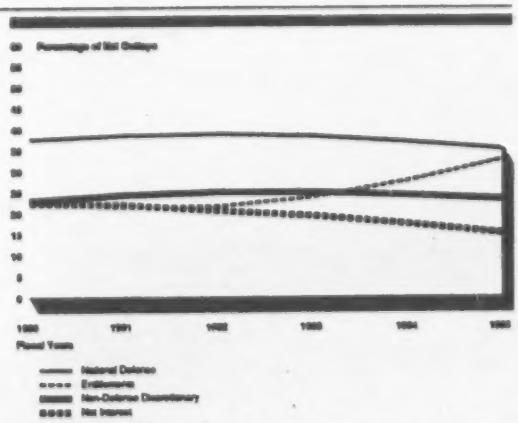


SOURCE: Congressional Budget Office's THE ECONOMIC AND BUDGET OUTLOOK: FISCAL YEARS 1991-1995, page 60.

The CBO Baseline for Entitlements and Non-Defense Discretionary outlays was reduced by dedicated receipts as reported by OMB. CBO does not provide this level of detail.

Figure 6.

The President's Adjusted Proposed Budget Totals By Category (As A Percentage of Net Outlays)



SOURCE: Office of Management and Budget's BUDGET OF THE UNITED STATES GOVERNMENT FISCAL YEAR 1991, page A-148

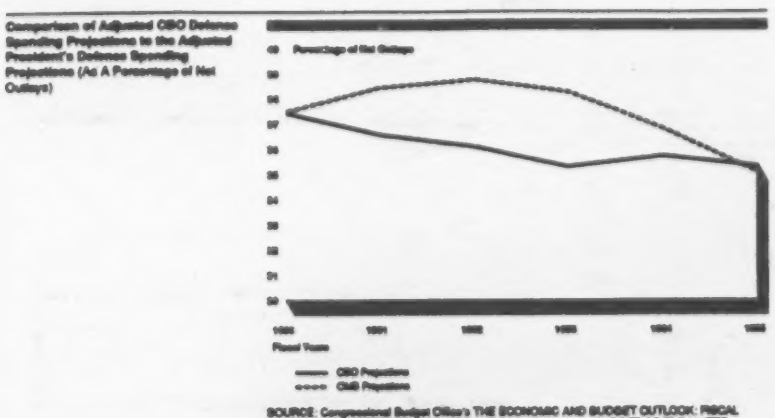
To summarize, the categories as adjusted, have an average relative contribution to the deficit/surplus as follows:

Category	CBO Average	OMB Average
National Defense	36.1%	37.5%
Entitlements	26.4%	24.9%
Non-Defense Discretionary	23.1%	24.0%
Net Interest	21.7%	19.4%
Offsetting Receipts[8]	-7.2%	-5.7%
Adjusted Net Outlays	100.0%	100.0%

[8] Undistributed Offsetting Receipts are deducted from Total Outlays to arrive at Net Outlays. They are not earmarked to any category.

After adjusting for earmarked receipts, CBO's and OMB's projected outlays for National Defense illustrate different trends as a percentage of Total Net Outlays. (See Figure 7) CBO's projections show a more level percentage of Total Net Outlays through 1995. OMB's projections show an increase in the percent of Total Net Outlays from 1991 through 1993 before tapering off at the end of the period. The magnitude of the spending and the relationship to GNP has not changed from the previous analysis since National Defense is not affected by earmarked receipts.

Figure 7.


Comparison of Adjusted CBO Defense Spending Projections to the Adjusted President's Defense Spending Projections (As A Percentage of Net Outlays)
Percentage of Net Outlays
Fiscal Years
CBO Projections
OMB Projections

SOURCE: Congressional Budget Office's THE ECONOMIC AND BUDGET OUTLOOK: FISCAL YEARS 1991-1995, page 60, Office of Management and Budget's BUDGET OF THE UNITED STATES GOVERNMENT FISCAL YEAR 1991, page A-148.

QUESTION

FURTHER REGARDING YOUR STATEMENT THAT THE REMAINING FYDP REDUCTIONS DECISIONS BE MADE SOON, DO YOU HAVE ANY INDICATIONS THAT MAKING EARLY DECISIONS INVOLVING HIGHER LEVELS OF RISKS WILL PROVIDE MORE SAVINGS OR MILITARY EFFICIENCY THAN DELAYING SUCH DECISIONS UNTIL EVENTS REDUCE THE RISK IN MAKING SUCH DECISIONS?

GAO RESPONSE: According to statements by the Director of CIA and Secretaries of State and Defense the risk or threat of a massive Soviet invasion of Western Europe has been significantly reduced. According to the Director of the CIA, the changes in Eastern Europe are irreversible. This raises questions regarding (1) current plans for developing new weapons, (2) the quantity requirements of weapons currently being produced, and (3) current force levels and structure. I believe significant reductions in these areas can be made without increasing risk. Accordingly, delays in making such decisions could result in billions of dollars in unnecessary defense spending.

QUESTION

YOU PROVIDE A VERY VAGUE VIEW OF YOUR RECOMMENDATIONS REGARDING REDUCTIONS IN THE PACE OF FUNDING AND PRODUCTION OF THE B-2. EXACTLY WHAT IS YOUR RECOMMENDED PROGRAM? HOW COULD THIS BE ACCOMPLISHED IN TERMS OF TANGIBLE CHANGES IN SCHEDULE, PRODUCTION RATES, TESTING, AND FUNDING? PLEASE PROVIDE A SIMILARLY DETAILED ANALYSIS OF YOUR ESTIMATE OF THE OVERALL COST IMPACT OF YOUR RECOMMENDATIONS ON THE PROGRAM, AND OF YOUR CONCLUSIONS REGARDING THE RESULTING IMPACT ON U.S. MILITARY CAPABILITIES, IF YOU HAVE A BASIS FOR MAKING SUCH JUDGMENTS.

GAO RESPONSE: GAO has not recommended a specific acquisition strategy for the B-2 program. We have identified uncertainties with the estimated program cost, schedule, and manufacturing status. We have also pointed out that the flight test program has only completed 1 percent of the scheduled 3,600 hour program. In addition, we have stated that critical integrated avionics flight testing is not scheduled until late in the test program, when, if the June 1989 acquisition strategy is carried out, over $48 billion will have already been appropriated.

In view of these uncertainties, and the early stages of demonstrated B-2 capabilities, we have recommended more

prudent acquisition strategies be examined by the Department of Defense.

QUESTION

YOU ARE EQUALLY VAGUE REGARDING YOUR RECOMMENDATIONS RELATING TO THE M-X RAIL GARRISON. PLEASE ITEMIZE IN EXACT DETAIL YOUR REASON FOR ASSUMING THAT OPERATIONAL TEST AND EVALUATION IS NEEDED OF THE COMPLETE WEAPONS SYSTEM. PLEASE PROVIDE A SIMILARLY DETAILED ANALYSIS OF YOUR ESTIMATE OF THE OVERALL COST IMPACT OF YOUR RECOMMENDATIONS ON THE PROGRAM, AND OF YOUR CONCLUSIONS REGARDING THE RESULTING IMPACT ON U.S. MILITARY CAPABILITIES, IF YOU HAVE A BASIS FOR MAKING SUCH JUDGMENTS.

GAO RESPONSE: Our recommendation is based on DOD and Air Force policy regarding the need for operational test and evaluation as specified in their directives (DOD Directive 5000.3 and AF Regulation 80-14). Those documents state that "before the Milestone III production decision, operational test and evaluation of a production - representative system shall be conducted to verify that system's operational effectiveness and suitability and ensure that it meets required operational thresholds. The system tested must be sufficiently representative of the expected production system to ensure that test and evaluation supports the production decision." As we pointed out in our December 1989 report on the Rail Garrison Program (NSIAD-90-19), most of the testing that is scheduled to be completed and used to support the production decision will be developmental testing of preliminary design of individual subsystems. We do not believe that testing will provide the level of assurance contemplated by DOD and Air Force testing requirements.

No data are available to calculate the cost impact of our recommendation to delay the production decision until some operational test and evaluation of the complete weapon system has been conducted.

QUESTION

PLEASE PROVIDE A SIMILAR ANALYSIS TO CLARIFY YOUR VAGUE RECOMMENDATIONS REGARDING THE BLOCK II PROGRAM FOR THE M-1 BLOCK II PROGRAM.

GAO RESPONSE: The Army's belief that the Abrams Block II tank would be considerably more capable than the current M1A1 was based on a Cost and Operational Effectiveness Analysis that

included assumptions not based on actual experience. The Army also assumed that the Block II Program would incorporate tank capabilities that will not be incorporated into the modified tank. Further, the Army has a high risk acquisition strategy because testing of the new system will not be completed when the Army awards advance procurement funds. As a result of these concerns, we recommended that the Army not award any advanced procurement funds until they perform a new cost-effectiveness analysis and modify their acquisition strategy.

QUESTION

YOUR DISCUSSION OF THE DDG-51 DOES NOT INDICATE WHETHER THE PROBLEMS AND RISKS YOU HAVE FOUND ARE UNUSUAL, THE EXACT NATURE OF ANY TECHNICAL AND SYSTEM INTEGRATION RISKS, OR THE IMPACT ON PROGRAM COST AND MILITARY CAPABILITY INHERENT IN WHAT YOU LOOSELY REFER TO AS AN OPPORTUNE TIME TO REEXAMINE THE DDG-51 PROGRAM. PLEASE PROVIDE A COMPREHENSIVE AND DETAILED ANALYSIS OF YOUR CURRENT VIEWS REGARDING THE ISSUES INVOLVED, AND DEFINE WHAT YOU MEAN BY "REEXAMINE THE DDG-51 PROGRAM. PLEASE PROVIDE A SIMILARLY DETAILED ANALYSIS OF YOUR ESTIMATE OF THE OVERALL COST IMPACT OF YOUR RECOMMENDATIONS ON THE PROGRAM, AND OF YOUR CONCLUSIONS REGARDING THE RESULTING IMPACT ON U.S. MILITARY CAPABILITIES, IF YOU HAVE A BASIS FOR MAKING SUCH JUDGMENTS.

GAO RESPONSE: Although the Navy and BIW sometimes disagree on whether the DDG-51 is developmental, there are major features that are being incorporated and are to be integrated in the ship for the first time. The reduced radar cross section is the most notable example. Also the collective protection system--which provides environmental protection from nuclear, biological and chemical threats--has never been used on a ship like a destroyer. This system uses sophisticated air filtration units, airtight compartments, and decontamination. Problems occurred in designing high pressure fans, pressure relief valves, and ventilating systems. There have also been design and production problems with the data multiplex system and the propulsion reduction gear.

The Department will not know whether these or other major systems are integrated and functioning as planned until sea trials have actually occurred. Our report clearly states that the Navy believes that it has significantly reduced the risks in the performance of the lead ship through testing at the engineering sites, and, the risks for the follow ships. GAO

maintained, however, that the risks of concurrency were significant. At the then current rate, 17 follow ships, or more than 50 percent of the ships in the program, could be under construction or awarded before the lead ship had finished the at-sea trials and been delivered to the Navy. Recently, the Navy awarded 5 follow on ships for a total of 12 follow ships, almost 40 percent of the program.

We have not performed a detailed analysis of the cost implications of delaying the program. We believe that the Navy should consider the implication of moving forward as planned versus delay. Waiting until sea trial data would not have delayed the program greatly while allowing more information for decisionmaking.

QUESTION

WHAT EXACTLY DO YOU RECOMMEND BE DONE ABOUT THE ISSUES YOU RAISE REGARDING THE AN/BSY-2 PROGRAM? PLEASE PROVIDE A DETAILED ANALYSIS OF YOUR ESTIMATE OF THE OVERALL COST IMPACT OF YOUR RECOMMENDATIONS ON THE PROGRAM, AND OF YOUR CONCLUSIONS REGARDING THE RESULTING IMPACT ON U.S. MILITARY CAPABILITIES, IF YOU HAVE A BASIS FOR MAKING SUCH JUDGMENTS.

GAO RESPONSE: While our January 1990 report on submarine combat systems did not make any recommendations, we believe it is important to note, however, that the SSN-21 will not achieve full mission capabilities without the AN/BSY-2. Since the Navy has committed itself to building the SSN-21, there is no alternative to the AN/BSY-2 combat system.

The report, and my testimony, make the case that DOD and the Navy need to give the intense management overview and attention to the development of the combat system to assure that the development is accomplished on schedule and that the system delivered is fully capable.

The costs of such intense management attention would be minimal compared to the dangers to be avoided.

QUESTION

WHAT EXACTLY DO YOU RECOMMEND BE DONE ABOUT THE ISSUES YOU RAISE REGARDING THE DOD AUTOMATED INFORMATION SYSTEMS? PLEASE PROVIDE A DETAILED ANALYSIS OF YOUR ESTIMATE OF THE OVERALL COST IMPACT OF YOUR RECOMMENDATIONS ON THE PROGRAM, AND OF YOUR CONCLUSIONS REGARDING THE RESULTING IMPACT ON U.S. MILITARY CAPABILITIES, IF YOU HAVE A BASIS FOR MAKING SUCH JUDGMENTS.

GAO RESPONSE: We have recommended that the Secretary of Defense review and revise, as appropriate, the management control and decision making process for major automated information systems development. As a starting point, we have suggested that the Secretary should give special attention to:

-- rigorously enforcing established policies;

-- establishing an early warning system to identify problems in automated information system development efforts;

-- examining the role of the Major Automated Information Systems Review Committee, including its policies for conducting milestone reviews during the development phase, delegating oversight responsibility to Defense components, and relying on in-process reviews; and

-- ensuring that the Congress is consistently provided accurate, current, and complete cost information for major automated information systems, including timely notification when internal Defense cost estimates exceed the initial cost estimate by 25 percent or more.

The Secretary of Defense has generally concurred with our recommendations and has taken action to improve enforcement, establish an early warning system, and review the role of the Major Automated Information System Review Committee. We do not believe that our recommendations will require increased funding for Defense. Moreover, implementing our recommendations should result in more effective, efficient, and economical use of Defense's resources.

We also believe that, if successfully implemented, our recommendations could have a positive impact on U.S. military capabilities. Many of Defense's automated systems--for pay and personnel functions--relate to morale and welfare and

therefore indirectly affect military capabilities. If the systems are not working well, it is a detriment. In the case of inventory and logistics systems the effect of systems that cannot account for or deliver supplies when needed is even more direct. To put it bluntly, a weapon system without ammunition is not going to be very effective, a plane without spare parts will not fly for very long, and a ship that cannot account for its use of resources could be in trouble very quickly.

QUESTION

THE SECRETARY OF THE AIR FORCE HAS ALREADY PROVIDED YOU WITH A DETAILED CRITIQUE OF YOUR REPORT ON ITS FINANCIAL OPERATIONS, AND I BELIEVE THAT THE AIR FORCE STAFF HAS RAISED A NUMBER OF ADDITIONAL ISSUES. YOU DO NOT MENTION THESE OPPOSING VIEWS IN YOUR TESTIMONY. PLEASE PROVIDE YOUR COMMENTS ON EACH OF THE POINTS, AND CRITICISMS OF THE HANDLING AND PUBLIC RELEASE OF YOUR REPORT, RAISED BY THE AIR FORCE.

GAO RESPONSE: In February 1990, GAO issued a Report to Congress, "FINANCIAL AUDIT: Air Force Does Not Effectively Account For Billions of Dollars of Resources" (GAO/AFMD-90-23). Prior to the release of this report, we sent the draft report to the Air Force for comment. Secretary Rice expressed concerns about the draft report to Mr. Bowsher in a letter dated February 15, 1990. The following responds to each of Secretary Rice's concerns raised in his letter to Mr. Bowsher.

ASSERTION NO. 1:

"The GAO findings are fundamentally misdirected. They compare Air Force financial systems to GAO pre-conceived accounting statement requirements that have not been promulgated for Executive Branch adoption by the OMB. The GAO apparently wants government agencies to have the same auditable balance sheets and other financial statements as for-profit companies. This concept has not been accepted by the Congress or the Executive Branch."

GAO RESPONSE:

It is important to recognize that GAO considered Air Force financial systems, information, and reports in relation to standards already expected of all federal agencies. We evaluated the Air Force financial systems against requirements established by

the Office of Management and Budget (OMB) and the Department of the Treasury, as well as those developed by GAO. In this respect, OMB Circular A-127 on financial management systems specifically requires agencies to establish and maintain single, integrated financial management systems in which budgeting and accounting are integrated and done on the same basis, and which are capable of producing financial information that is reasonably complete, accurate, and verifiable. Furthermore, the Treasury requires that agencies annually submit reliable financial reports that include all assets, liabilities, equities, results of operation, and other financial data related to their activities. In addition, requirements issued by the Secretary of the Treasury, the Director of OMB, and the Comptroller General set the standards and framework for the integration of financial management systems. These are by no means all the applicable requirements.

ASSERTION NO. 2:

"The (GAO) draft report makes frequent assertions about the benefits from financial statements that meet the GAO-self-initiated standard, but presents no evidence to back them up. No cost savings are identified. Implementation costs, likely to be in the billions for the DOD, are ignored."

GAO RESPONSE:

Good accounting systems are required to prepare financial statements. One benefit of good accounting systems is the prevention of losses, from mismanagement, waste, fraud and abuse. What can result when good financial management is lacking has been amply demonstrated by the recent HUD scandals, where millions of dollars were lost due to poor internal accounting controls. In the Air Force, control over inventory management weakens when there are inaccurate records and inconsistent valuation procedures, both which contribute to the billions of dollars of excess inventory.

Other areas are not as easy to spot when tens of billions of dollars of resources are not placed under accounting control and when internal controls are as weak as they are at the Air Force it is impossible to determine the extent of losses which are occurring throughout the system. The absence of good systems and controls permits such losses to go undetected.

Other benefits pointed out in the GAO report relate to efficiency and cost effectiveness improvements in existing operation that can be achieved if accountabilities are maintained and actual cost information is guaranteed. Cost savings will be identified by the Air Force if these tools are available and are used. One cannot determine the cost savings without these tools.

Integrated accounting systems instill discipline and promote accountability, both of which were lacking in the Air Force. The financial management environment in the Air Force does not place high priority on the preparation of year-end financial statements that meet accepted accounting standards and are subject to periodic audit. The financial environment has fostered a careless attitude where (1) correcting an account balance means plugging the account with faulty numbers rather than attempting to determine what caused the problem, (2) fundamental reconciliations are not routinely prepared, and (3) accounting and finance officers do not understand how to prepare annually required financial reports. Good accounting is dependent upon a high degree of attention to detail. Take away that discipline and it creates a ripple effect that encourages sloppy handling of resources and may result in waste and abuse of taxpayers' dollars.

Good accounting systems will also produce a "snapshot" of the real world financial condition of the Air Force (or any other federal agency) at a given point in time. They permit establishment of reliable safeguards that will alert managers and policymakers to problems before they reach the crisis state. Information flowing from such systems allows managers to compare costs and efficiencies between similar operations, to measure progress against expectations, to judge performance, and to make choices among competing demands for scarce resources.

We recognize that the installation of integrated accounting systems capable of producing financial statements that can withstand an audit is neither an inexpensive nor an easy undertaking. However, the Defense Management Report Status as of January 1990 and DOD Comptroller Sean O'Keefe's testimony before the House Armed Services Subcommittee on Readiness on March 8, 1990, refer to such costs. DOD believes the installation of updated systems will not only improve financial operations but also will save substantial money.

ASSERTION NO. 3:

"Overall, the draft report offers a narrow view of the information needed for defense decisionmaking that has limited relationship to the real problems of defense management. Many available sources of information supporting defense decisionmaking are ignored. There is no mention of the Defense Planning, Programming and Budgeting System, the Selected Acquisition Reports, the Independent Cost Analysis process, or the many analytical studies of cost and other factors."

GAO RESPONSE:

GAO is very familiar with the other information sources available for DOD decisionmaking referred to in the letter. Regarding the Defense Planning, Programming and Budgeting System, we previously reported that, during the 1980s, DOD's Five-Year Defense Plan prepared under that system was fiscally unrealistic. More weapons were being planned than could be produced economically or supported once deployed. And, as you are aware, DOD has not prepared a current plan nor updated the outyear totals in its last plan.

Similarly, GAO has reported that the Selected Acquisition Reports (SARs), DOD's primary means to inform the Congress on the cost of major weapons systems acquisitions, failed to include actual costs incurred or to compare funded quantities to planned and actual deliveries. While the SARs provide a better estimation of weapons systems cost than do the accounting systems, they are far from accurate and complete. In any event, the information for the SARs should flow from a fully functioning and integrated accounting system rather than from ad hoc records.

The Independent Cost Analysis process, used to develop cost estimates on the major weapon systems for budget purposes, provides questionable results without relevant cost data. An integrated accounting system that provides historical cost is needed as a baseline to develop accurate cost estimates. Moreover, to determine the accuracy of past estimates, historical cost should be compared to cost estimates.

ASSERTION NO. 4:

"Even if that information were useful, why do I need it at a penny-wise level of accuracy that a CPA would judge 'auditable'?"

GAO RESPONSE:

GAO does not seek information "at a penny-wise level of accuracy". What GAO does seek is a reasonable level of accuracy sufficient to provide managers with information that fairly reflects the true financial condition of the Air Force. Such a test of reasonableness is hardly met when billions of dollars cannot be accounted for.

ASSERTION NO. 5:

"The GAO writes a hypercritical and inflammatory report," and "the report creates the misimpression that the Air Force is wasting and mismanaging billions of the taxpayers' dollars because of inaccurate and unreliable financial data."

GAO RESPONSE:

Our audit began with the belief that the Air Force's accounting systems would be sufficiently reliable to permit us to express an opinion on its financial statements. Unfortunately, we found that 70 percent of Air Force assets were unauditable by billions of dollars. Our report was a fair and complete representation of the facts as demonstrated by DOD's concurrence or partial concurrence with our recommendations.

ASSERTION NO.6:

"The GAO's own procedures were not followed. This is a summary report, but we are asked to comment without having the four underlying reports available. We were given 14 days instead of the normal 30 days to respond, and were denied a formal exit interview."

GAO RESPONSE:

The report is a comprehensive presentation of the Air Force's financial management operations and does not simply summarize other unissued reports. The four other reports will provide more details on the results of our audits for both fiscal years 1988 and 1989 at major components of the Air Force. However, all major issues are presented in the overall report.

GAO's policies and procedures were followed in all respects.

Throughout the review, we briefed Air Force officials on our findings and coordinated our work with the Air Force Audit Agency. Because of strong congressional interest in obtaining the results of our audit as soon as possible, we asked--and DOD agreed--to provide comments on our report in the 14 days rather than the normal 30 days. It is worth noting that in its comments, DOD concurred or partially concurred with each of our 26 recommendations. By responding quickly, as Defense did, GAO could quickly finalize and issue its report.

ASSERTION NO. 7:

"The report offers little recognition of the Air Force fund control system."

GAO RESPONSE:

The report clearly states that GAO found the Air Force fund control systems to be generally reliable. Fund control is a critical part of financial management, but it is by no means the only part. It is not enough for Air Force managers to ask: "How much money do I have left to spend this year?" In an era of declining resources, managers must also be willing to ask: "How wisely am I using the resources at my disposal?" Good historical accounting information is absolutely necessary to address the latter question.

ASSERTION NO. 8:

"Air Force self-reports have identified the shortcomings in its financial systems. The major system deficiencies discussed in the GAO report (lack of a transaction-based general ledger and financial control of government-furnished material in the possession of contractors) have been fully explained in our reports under the Federal Manager's Financial Integrity Act, and corrective actions underway. The Air Force is fully committed to its goal of a financial management system that meets Office of Comptroller General standards. As evidence of this commitment, the Air Force is currently planning to spend over $200 million over the next five years on financial system improvements and enhancements."

GAO RESPONSE:

While the Air Force has acknowledged weaknesses in its general ledger system, it was not fully aware of the extent of problems

with its accounting system, nor did the Air Force take timely action on the reported deficiencies in its system. Since at least 1983, the General Accounting and Finance System has been recognized as deficient. However, the Air Force was not aware of the scope and seriousness of the deficiencies we found in the system. The problems with unreliable reporting to Treasury, unsupported adjustments, lack of reconciliations and failure to analyze financial data were not known.

In 1988, five years after the reported deficiencies, the Air Force began to develop a new accounting system. It planned to spend over $200 million over the next few years on financial system improvements and enhancements. However, this project has been cancelled and a new system will be years away from correcting the problems identified in 1983 and those identified in the recent report.

ASSERTION NO. 9:

"The GAO also ignores the enormous cost of developing these systems. For example, the costs for just one such system currently in development, the Army Reserve Component Automation System, has grown from $250 million to over $1.5 billion."

GAO RESPONSE:

We recognize that the installation of integrated accounting systems capable of producing financial statements that can withstand an audit is neither an inexpensive nor an easy undertaking. However, the Defense Management Report Status as of January 1990 and DOD Comptroller Sean O'Keefe's testimony before the House Armed Services Subcommittee on Readiness on March 8, 1990, refer to such costs. DOD believes the installation of updated systems will not only improve financial operations but also will save substantial money.

Adequate planning and management can help prevent cost overruns in developing systems. Our report contains recommendations for reducing the potential for such increases.

ASSERTION NO. 10:

"Industrial and stock funds are 'fed' by appropriations, which expire annually. 'Losses' to one specific part of a stock fund are 'gains' to an appropriation level account. The cost of making

these stock and industrial funds more accurate at the lowest levels will probably exceed the utility of the more accurate information to DOD decisionmakers."

GAO RESPONSE:

As a general principle, activities operating under an industrial or stock fund are fully reimbursed for all goods, services and applicable administrative expenses. Losses to the stock funds are not simply "gains" to the appropriated funds. Eventually losses in the industrial and stock funds must be paid by the parent service appropriated funds.

Secondly, poor financial management results in waste and unnecessary cost due to inefficiency. The inefficient use of resources can not only affect operations not being performed at their best but also represents real losses to the appropriated funds and ultimately to the taxpayer as well.

ASSERTION NO. 11:

"The GAO comments with respect to long supply items and loss of inventory control (a very serious problem both within our own depots and for material in the hands of DoD contractors) have little or nothing to do with financial reporting, since these stocks must be managed on an item/inventory basis for readiness and warfighting purposes--not on the basis of a financial statement."

GAO RESPONSE:

In this regard, we were alarmed at the letter's suggestion that inventories do not need to be managed from a financial perspective, but only on an item basis. Dollar measurements are critical in both identifying problem areas in the inventories and in managing cost effectively. Such rationale inexorably leads to the kinds of excessive inventory problems the report discusses. Item basis management also does not permit the identification and pin pointing of serious inventory losses and deterioration problems in a way that management can take corrective action. Cost effectiveness demands to use of inventory cost accounting.

ASSERTION NO. 12:

"At a public meeting, GAO staff have described intentionally sensationalizing the title of the report to increase its newsmaking potential."

GAO RESPONSE:

To our knowledge there was no inappropriate discussion of the draft title by GAO personnel.

QUESTION

I AGREE WITH THE MAIN THRUSTS OF YOUR OBJECTIVES IN REFOCUSING GAO'S EFFORTS TO MEETING CHANGING NEEDS. I AM DISTURBED, HOWEVER, THAT YOU DO NOT DESCRIBE ANY OF THE DETAILED CHANGES IN ORGANIZATION, STAFFING, STAFF EXPERTISE, AND OTHER CAPABILITIES NECESSARY TO PERFORM WORK ROUGHLY EQUIVALENT TO THE PLANNING AND PROGRAMMING ACTIVITIES OF THE ENTIRE DEPARTMENT OF DEFENSE. CAN YOU DESCRIBE SUCH CHANGES IN DETAIL?

GAO RESPONSE: Our refocusing of efforts, mean that we are giving priority in terms of staff resources to jobs related to changing East-West relationships. To ensure that our work focuses on those topics of greatest interest to the Congress, we have planned a body of work that we believe anticipates the type questions Congress will be considering. We believe that we can accomplish the added workload with existing staff resources. The work that we have planned deals with traditional defense issues -- weapon acquisitions, defense planning and management, force structure, manpower, logistics, and strategy. We believe that we already have the staff skills needed to accomplish this body of work.

QUESTION

I AM ALSO CONCERNED WITH VAGUE STATEMENTS LIKE "IN MY VIEW, THE DEFENSE FORCES WOULD BE BETTER SERVED BY ENSURING THAT A SMALLER FORCE IS WELL TRAINED AND EQUIPPED THAN BY TRYING TO MAINTAIN A LARGER FORCE WITH NO MUSCLE." DOES THIS MEAN YOU ARE IGNORING ALTERNATIVES LIKE THE TOTAL FORCE CONCEPT? ARE YOU IGNORING THE OPTION OF VALID TRADE-OFFS BETWEEN READINESS AND FORCE STRUCTURE?

GAO RESPONSE: My view is that the history of the late seventies offers clear examples of what can happen when Defense opted to maintain force structure while its budget was declining.

General Meyer, the Army Chief of Staff at that time, referred to the "hollow Army"--a force with no muscle. Morale was low, readiness and sustainability were also low. The ill-fated hostage rescue attempt probably epitomizes what can happen to our force capability if we fail to learn from the past.

General Powell, the Chairman of the Joint Chiefs of Staff, has remarked on several occasions that he would not allow the military to repeat the mistakes of the past. He would prefer a smaller more potent force to a larger hollow force.

I share their views. It is better to have a smaller, highly capable, well trained proficient force ready to go when and wherever needed. I believe this view is totally consistent with the Total Force Concept. Rather than ignoring valid trade-offs between readiness and force structure, I believe the smaller more potent force would be the direct result of having made such difficult decisions.

QUESTION

FINALLY, COULD YOU DESCRIBE WHAT YOU ARE DOING IN THIS AREA TO CORRECT TWO LONGSTANDING PROBLEMS IN GAO ANALYSIS IN THIS FIELD. THE FIRST IS THE INABILITY TO LOOK AT COMPLEX TRADE-OFFS AND TO CALCULATE SAVINGS ONLY IN TERMS OF ABOLISHING REDUCED OR RELOCATED UNITS. THE SECOND IS THE FAILURE TO COUPLE COST ANALYSIS TO ANALYSIS OF MILITARY CAPABILITIES AND RISKS, AND A TENDENCY TO FAIL TO EXPLICITLY STATE WHEN YOUR ANALYSES CANNOT ADEQUATELY MAKE SUCH JUDGMENTS.

GAO RESPONSE: We believe our recent reports do recognize the complexities of trade-off decisions between cost and military capability. For example, our recent report on force mix decision-making highlighted this issue, pointing to a difference of opinion in the Army over whether less-than-fully resourced units should be eliminated or retained in the force structure. The active Army seems to favor elimination of less-than-fully resourced units, while the reserve components argue that it is better to have a partially resourced unit than none at all. However, we do not believe that generalizations can be made.

Another example where we discussed the importance of these trade-off decisions was in our 1988 report which cited opportunities to improve National Guard and Reserve policies

and programs. In this report, we stressed the importance of cost and military capability for force mix decisions. In all of our reports dealing with these matters, our objective is to point out alternatives that need to be considered. The ultimate decision of choice rests with the service departments since they are in the best position to weigh the advantages and disadvantages of each option.

QUESTION

PLEASE PROVIDE AN UPDATED EXPLANATION OF YOUR CRITICISM OF THE FYDP.

GAO RESPONSE: As I testified before the Senate Armed Services Committee in May of last year, DOD's five year spending plans since the mid 1980s have been fiscally unrealistic. The FY 1986-90 plan assumed funding levels that exceeded actual funding by $555 billion. I noted in the testimony that the FY 1990-94 FYDP would likely have to be reduced by at least $147 billion--and this was prior to the changes in Eastern Europe. Furthermore, the growing deficit and the need to meet ambitious deficit reduction targets under Graham-Rudman-Hollings provided clear indications that DOD's planned spending levels were optimistic. However, the fiscal year 1991 budget formulation and decision making process continued through last summer assuming the optimistic 1991-94 funding levels contained in the April 1989 FYDP. Accordingly, the decision to reduce the fiscal year 1991-94 funding request by $167 billion, required DOD to make the reduction decisions without the benefit of the normal budget review process. As I testified this year, DOD has not made all the decisions as to where and how these reductions will be made. Accordingly, DOD cannot produce a FYDP that is consistent with and supports the President's budget.

A current and fiscally realistic FYDP is essential to effective and efficient DOD planning and management. Fiscally unrealistic FYDP's result in the services developing weapons and planning production rates that are not affordable. This leads to costly stretchouts and terminations. Currently decisions need to be made to reduce billions from the current plan. However, defense program managers continue to plan and spend without knowing if and to what extent their programs are subject to reductions or termination.

Also, without a FYDP to support the President's defense budget submission, the Congress must approve or make spending decisions on programs and forces without knowing where and how DOD plans to make its outyear reductions.

QUESTION

PLEASE PROVIDE AN EXPLANATION OF HOW THE FYDP COULD BE UPDATED MORE RAPIDLY AND OF THE CHANGES REQUIRED IN THE DOD PLANNING, PROGRAMMING AND BUDGETING SYSTEM.

GAO RESPONSE: The PPBS, of which the FYDP is a product, needs to reflect realistic funding levels. Realistic funding levels should also be reflected in the development of strategic plans and objectives and in guidance to the services in preparing programs and budgets. Even though the Goldwater-Nichols Act requires DOD to prepare fiscally constrained strategic plans and objectives, the most recent plans have assumed funding levels much higher than ultimately funded. As a result there continues to be a mismatch between warfighting plans and capability. Using more realistic or alternative funding levels during the PPBS process would reduce the amount and extent of eleventh hour updating of the FYDP.

QUESTION

PROVIDE A DETAILED DISCUSSION OF HOW YOU FEEL THE CONGRESS COULD MAKE EFFECTIVE USE OF THE MATERIAL IN THE FYDP IN CONDUCTING ITS ANNUAL REVIEW?

GAO RESPONSE: The detailed outyear spending plans contained in the FYDP could significantly improve Congressional review of each year's defense budget submission. It provides the outyear spending impacts of the programs in the President's budget and provides insights into revisions the Congress may want to consider. This could be particularly useful as Congress attempts to meet deficit reduction targets. GAO has the computer capability to provide line item comparison's of each FYDP with the previous FYDP to quickly identify (1) changes in program funding and quantity levels by year, (2) new programs, and (3) terminated programs. Trend analyses of the FYDP can also identify the extent DOD's stated goals and objectives are being funding. For example, is readiness spending being reduced at a greater rate than weapons modernization spending.

QUESTION

PROVIDE AN EXPLANATION OF HOW A DOCUMENT THAT DOES NOT PROVIDE COST DATA BY MISSION, AND WHICH IS NOT RELATED TO A NET ASSESSMENT OR STRATEGIC JUSTIFICATION CAN BE USED FOR EFFECTIVE CONGRESSIONAL REVIEW AND PLANNING.

GAO RESPONSE: The FYDP is a product of the PPBS and should be reflect both DOD strategy and net assessments. Accordingly, Congress, if provided access to strategic planning documents, could determine the extent defense spending plans and decisions are consistent with strategic plans and objectives. The Packard Commission identified a number of weaknesses in the PPBS and recommended stronger links between planning and budgeting. Congressional review of the FYDP as it relates to strategic plans and objectives and the forces required to implement the plans could help assure such linkage.

QUESTION

YOU REFERRED REPEATEDLY TO $34 BILLION WORTH OF "SURPLUS INVENTORY" AND THEN STATED IT WAS DRAWN FROM "VARIOUS REPORTS." PLEASE PROVIDE AN EXACT AND COMPREHENSIVE LIST OF EACH INDIVIDUAL ITEM THAT MAKES UP YOUR $34 BILLION FIGURE IN ONE CONSOLIDATED LIST. PLEASE INDICATE IN EACH CASE WHICH SPECIFIC EXAMPLES ARE AREAS WHERE YOU FEEL MISMANAGEMENT OCCURRED, AS DISTINGUISHED FROM CHANGES IN REQUIREMENTS, AND WHY YOU FEEL MISMANAGEMENT OCCURRED.

GAO RESPONSE: In its Supply System Inventory Report as of September 30, 1988, DOD reported $34 billion of secondary item inventory that is "excess to the approved force retention level." In preparing this report, DOD drew from DOD components' inventory reports called stratification reports. The components update their automated records periodically and they would thus no longer have access to itemized listings that accurately correspond to their portion of DOD's reported $34 billion figure.

Individual internal control points within each DOD component could provide detailed listings of items as of the date of their most recent stratifications. However, these listings would be voluminous and would not answer your questions as to where mismanagement occurred. For example, the Navy had over 180,000 line items of stocks "excess to the approved force retention level" for just its ship and submarine parts. Thus,

the value of the many extensive listings may not justify the cost to DOD to produce them.

In answer to your request for specific causes, we are submitting for the record our testimony and three reports dated March 6, 1990, which discuss specific causes. These reports and others currently in process describe the results of our tests involving the three largest categories of secondary items that accounted for over 90 percent of the growth from 1980 to 1988. Included are:

-- Defense Inventory: Problems in Managing Secondary Items, (GAO/T-NSIAD-90-19, Mar. 6, 1990);

-- Defense Inventory: Growth in Air Force and Navy Unrequired Aircraft Parts, (GAO/NSIAD-90-100, Mar. 6, 1990);

-- Defense Inventory: Defense Logistics Agency's Excess Materiel on Order, (GAO/NSIAD-90-105, Mar. 6, 1990); and

-- Defense Inventory: Growth in Ship and Submarine Parts, (GAO/NSIAD-90-111, Mar. 6, 1990).

Our recent analyses and many prior reports indicate that in addition to DOD's reported $34 billion of inventory "excess to the approved force retention level" as defined by DOD, its required inventories may also contain items that are not necessary. In response to a request by the Chairman, Senate Committee on Governmental Affairs, we are beginning an overview analysis of DOD's required inventories.

[Whereupon, at 12:40 p.m., the committee adjourned, subject to the call of the Chair.]

DEPARTMENT OF DEFENSE AUTHORIZATION FOR APPROPRIATIONS FOR FISCAL YEAR 1991

THURSDAY, APRIL 26, 1990

U.S. SENATE,
COMMITTEE ON ARMED SERVICES,
Washington, DC.

MAJOR AIRCRAFT REVIEW BY THE DEPARTMENT OF DEFENSE

The committee met, pursuant to notice, at 3:17 p.m., in room SR-253, Russell Senate Office Building, Senator Sam Nunn (chairman) presiding.

Committee members present: Senators Nunn, Exon, Levin, Dixon, Glenn, Shelby, Warner, Thurmond, Cohen, Wilson, McCain, Wallop, Gorton, and Lott.

Committee staff members present: Arnold L. Punaro, staff director; Marie Fabrizio Dickinson, assistant chief clerk; and Daniel G. Sakura, research assistant.

Professional staff members present: Robert E. Bayer, Robert G. Bell, Creighton Greene, John J. Hamre, William E. Hoehn, Jr., David S. Lyles, Michael J. McCord, Frederick F.Y. Pang, and William H. Smith.

Minority staff members present: Patrick A. Tucker, minority staff director and counsel; Romie L. Brownlee, deputy staff director for the minority; Brian D. Dailey, Ronald P. Kelly, George W. Lauffer, John E. Mansfield, Durwood W. Ringo, Jr., Mark B. Robinson, and Ann Elise Sauer, professional staff members.

Staff assistants present: Barbara Gallo, Mary J. Kampo, Kelli J. Pronovost, and Mickie Jan Wise.

Committee members' assistants present: Andrew W. Johnson, assistant to Senator Exon; Kenneth N. Luongo, assistant to Senator Levin; William J. Lynn, assistant to Senator Kennedy; Charles C. Smith, assistant to Senator Dixon; Milton D. Beach, assistant to Senator Glenn; Leon S. Fuerth, assistant to Senator Gore; Terence M. Lynch, assistant to Senator Shelby; C. Richard D'Amato and Melvin G. Dubee, assistants to Senator Byrd; James M. Bodner, assistant to Senator Cohen; Patrick F. McCartan, assistant to Senator Wilson; Anthony H. Cordesman, assistant to Senator McCain; Thomas G. Moore, assistant to Senator Wallop; Robert M. Soofer, assistant to Senator Gorton; Charles G. Pearcy, assistant to Senator Lott; and Eric H. Thoemmes, assistant to Senator Coats.

27-933 O—90——25

OPENING STATEMENT OF SENATOR SAM NUNN, CHAIRMAN

Chairman NUNN. The Armed Services Committee will come to order.

This afternoon the committee meets to receive testimony from Secretary of Defense Richard Cheney on the results of his major aircraft review. Secretary Cheney testified this morning before the House Armed Services Committee. Mr. Secretary, we know you have had a long day, but we welcome you here this afternoon.

I have said before and I will say again, Mr. Secretary, you have one of the most difficult jobs in Washington. We all, I think, can appreciate now that it is a lot easier to build up a defense budget on an increasing scale of expenditure than it is to build down with a decreasing budget.

I believe it is important for us to put today's presentation and testimony in the proper context. At the time Secretary Cheney appeared in February to present the fiscal year 1991 defense budget request, he indicated that the President's budget required cuts over 5 years totaling $167 billion when measured against the previous Five-Year Defense Plan that the Pentagon had.

Now, there has been an identification so far of $72 billion of that $167 billion. Today's recommendations begin the process of identifying the rest of the cuts and adjusting the budget to the changing threat.

I want to commend Secretary Cheney for his recommendations which I believe that every member of this committee will seriously consider as we arrive at our own conclusions on the budget. In terms of the specifics, Mr. Secretary, I share your approach that a major weapons system must be affordable and must work as advertised before we commit to buy it in quantity.

I believe that the proposals that you will lay out today reflect a serious commitment to what I and others have been calling flying before buying for major weapons. This was a major recommendation of the Packard Commission that was started and gave its report under President Reagan. I believe this principle must be applied not only to the four major systems we are talking about today, but indeed to all the Department of Defense systems.

We now have time to make sure equipment is both affordable and works as promised. I think, although there will always be exceptions, that the burden is on those who say that we must have a new system. I think the burden is also on those who say that we must start producing before we complete adequate testing.

Secretary Cheney has proposed reductions in the total quantities for the B–2, the C–17, the A–12 and has also proposed delays in the ATF which we will be hearing about in detail. I know that we are certainly going to look carefully at this. I do not want to commit to any specific quantities of these weapons or the total of annual production rates until we know the results of the testing that will occur now in a more orderly way than was originally envisioned.

I also think we still must look at whether or not we can improve existing weapons systems instead of proceeding with some of the new starts, but that will remain for the committee to decide and for Congress to decide. This major aircraft review is an important step forward in filling in the picture on the administration's de-

fense plans. Secretary Cheney has indicated in his statement that force structure is still under review and also that a major review is underway on certain Navy ships, certain Army programs and also on the Strategic Defense Initiative as well.

According to the charts provided to the committee, Mr. Secretary, your recommendations on the four aircraft, if approved, as I understand it, will save about $17 billion in the Five-Year Defense Plan. According to my arithmetic, we started with a 5-year reduction of $167 billion on the administration's numbers. We have identified so far $72 billion and today this is another $17 billion, so that adds up to $89 billion. We have about $78 billion more to go before we know the complete Five-Year Defense Plan.

I think this is major forward progress, a substantial down payment. We will be very interested, Mr. Secretary, in getting the Five-Year Defense Plan as soon as you can give it to us or whatever parts of it are available.

Before I turn the microphone over to the Secretary, let me call on my colleague and friend, Senator Warner.

Senator WARNER. Thank you, Mr. Chairman.

I simply join the chairman in saying that this is a very important step forward. And I think you are exercising prudence, Mr. Secretary, in your timing and in the results of this examination. And that is important. As the chairman said, it is easy to build up, but it is more difficult to build down, and perhaps more time consuming.

If for every step we build down, we had to go backward again, the process would probably be twice as expensive and take twice as long. So I, for one, support you in your timetable and how you are going about these tough decisions to restructure and refinance, really, the defense of this country in this coming fiscal year.

Chairman NUNN. Thank you, Senator Warner.

We have several prepared statements that members have asked be entered into the record.

[The prepared statements of Senator Dixon, Senator Thurmond, and Senator Wilson follow:]

PREPARED STATEMENT BY SENATOR ALAN J. DIXON

Mr. Chairman, it is a pleasure to have with us today the distinguished Secretary of Defense, Mr. Cheney. His presentation of the long awaited results of the Defense Department's major aircraft review comes at a critical point in the ongoing debate on the future of our Nation's defense policy.

It is my understanding that the major aircraft programs that have been the focus of the review—the B–2 bomber, the advanced tactical fighter, the A–12 or advanced tactical aircraft, and the C–17 airlifter—would have cost a total of $200 billion dollars in total research, development, and procurement funding. With this amount of money at stake, it is clear to me that careful review of these programs is an absolute necessity. I believe that today's testimony is an important part of this process, and that it will help this committee, and Congress as a whole, sensibly address the difficult choices ahead.

Given the diminishing threat and a declining defense budget, I have little confidence that we could have proceeded with all of these programs in the manner planned by the administration prior to this review. For example, I believe that in the case of the Air Force's efforts to modernize its fighter aircraft capability, we must move cautiously. Secretary Cheney's decision to delay initial procurement of the advanced tactical fighter is a good first step. Our current system, the F–15, is an outstanding aircraft that satisfies our existing needs. I am not at all convinced that the current threat environment requires us to move urgently on to the advanced tactical fighter, or that the austere defense funding environment we face will allow

us to do so. Instead, we should go slowly on this next generation system, proceed with research and development—especially building prototypes—and continue to rely upon and improve the F–15.

On the other hand, the extraordinary changes we are witnessing in the world mean that we must redouble our efforts in other areas. I am thinking about the fact that this country does not have sufficient airlift and sealift capabilities now. As we draw down our forward-deployed forces in Europe and elsewhere, the need for airlift and sealift becomes even more critical. How else would we move our troops to potential far-away hot spots should the need ever arise? The C–17 will go a long way toward solving our strategic airlift problems. For these reasons, I am not convinced that Secretary Cheney's decision to reduce the total number of C–17s that we plan to buy from 210 to 120 is a good idea.

Finally, I know that the Department of Defense is also taking a hard look at the light helicopter, or LH, program. I have serious reservations about the wisdom of this system, and I am very interested to learn the outcome of this review. I urge the Secretary to get this information to the committee as soon as possible.

Mr. Chairman, I look forward to hearing from today's witness, the Secretary of Defense.

PREPARED STATEMENT BY SENATOR STROM THURMOND

Thank you, Mr. Chairman. Secretary Cheney, it is a pleasure to see you again. It seems to me that you are spending as much time here on the Hill as you spend in the Pentagon.

Mr. Chairman, I trust everyone here and in the American public understands the significance of the review that Secretary Cheney directed. The results of this major aircraft review will have major implications on our Nation's defense far into the 21st century.

Mr. Secretary, I want to congratulate you for taking the initiative in conducting this review of the B–2, the ATF, the ATA, and the C–17 programs. It was a bold decision—and I believe characteristic of the leadership you have shown throughout your tenure as the Secretary of Defense.

There is no doubt that the outcome of this review will be controversial, regardless of which program wins or loses. My only concern is that the Nation is the winner, and that we continue to have a defense equal to none. I know you share my sentiment, and the decisions which you made in this review reflect your best judgment and that of the senior military leaders in the Defense Department.

Mr. Secretary, you have made some tough decisions in this matter. I want you to know you have my support, and that I believe you are doing a superb job as the Secretary of Defense.

Thank you, Mr. Chairman.

PREPARED STATEMENT BY SENATOR PETE WILSON

Mr. Chairman, I commend Secretary Cheney for conducting what amounts to a comprehensive and well-reasoned assessment of the Defense Department's major aircraft programs in light of the evolving military threat's that the United States will face during the 1990's.

The Department, under the Secretary's leadership, has made several hard decisions and force structure adjustments unlike any that have faced most U.S. administrations in the post-war period.

I also understand the need for the Department to alter the overall number of major aircraft required given its financial constraints and developments in U.S.-Soviet arms control negotiations.

Today, I would like to focus on a specific budgetary issue related to the B–2 bomber—one of the programs that DOD has properly identified as a multi-mission alternative for the future defense of American security interests.

I urge DOD and the Air Force to develop a production plan for both the short-term and the long-term that will maximize efficiency and reduce per unit costs to the taxpayer. The issue, then, is not so much the ultimate number of bombers produced but how that number develops from one fiscal year to the next.

The Defense Department's revised B–2 bomber plan will cut the overall number of aircraft by nearly half from the original goal of 132 at a total program savings of less than $10 billion.

Yet I fear that even this modest savings, given the large reduction in the total number of systems, will erode if the annual B-2 production rate does not reach a stable level.

More than $23 billion has already been spent on B-2 research, development, testing, and evaluation. The prime contractor for the program, the Northrop Corporation, spends $1.2 billion a year in maintaining the readiness of its vast manufacturing facility for this system.

In addition, the experience of prior aircraft programs and simple economics teach us that slipped, stretched-out, postponed, or abnormally low production rates will inflate unit costs. The B-2, Mr. Chairman, will not be an exception to this rule.

We owe it to the American people to provide the most realistic and accurate picture of the cost of this program. Abnormally low levels of production artificially push up this cost, and too many people—both friends and critics of the B-2—have used misleading figures or blamed the expense on factors unrelated to the basic fact that the Stealth bomber assembly line lies dormant. We should have a predictable and proportionate yearly acquisition schedule in place for the B-2 before we debate the real cost of this system and achieve real savings without sacrificing either quality or capability.

I look forward to working with the Secretary and the Department to reach a timely resolution of this problem.

Chairman NUNN. Mr. Secretary, we turn it over to you.

STATEMENT OF HON. RICHARD B. CHENEY, SECRETARY OF DEFENSE

Secretary CHENEY. Thank you very much, Mr. Chairman, Senator Warner, members of the committee.

I am delighted to be back before the committee today, to have the opportunity to spend a little time discussing these major programs with the members.

I would like at the outset, Mr. Chairman, if I might, to build on some of the things you said in your opening remarks. There are some general comments that I think are appropriate that I would like to get into. And I would like to talk, as well, a little bit about the threat, and how we built the recommendations we have today. Then I will quickly summarize, aircraft by aircraft, the basic decisions that we have come up with to recommend to Congress.

I think it is important for members to recall where we are in the process of building the budget. Right now, after having made the submission in January of the President's 1991 budget, we are in the midst, within the Department, of preparing what is called the 1992-1997 POM, the Program Objectives Memoranda.

Stated another way that is our long-range budget plan. A 6-year plan that will be in great detail with respect to fiscal year 1992.

After I work it back and forth with the services over the course of the next several months, I will present it to the President in the fall. Once he has signed off on it, it will come to Congress and be submitted to this committee next January.

What I have done, because of the changing events in the world, and because of the radically altered circumstances that we have seen in Europe, is to call for several reviews of major programs based upon where we were with respect to those programs.

We have a lot of other big programs in the Department besides these, but the fact is, these are at a stage early enough in their development so that if we were to make a decision now to reshape the program or to change it in some fashion, it has a significant dollar impact in the out years.

There are six aircraft, Mr. Chairman: the C–17; B–2; the Navy's A–12; the ATA, which is the Air Force version of the A–12 attack aircraft; the ATF and the NATF, two versions of the air superiority fighter.

As you mentioned, we also have reviews underway on the DDG–51, the next generation Arleigh Burke Class Aegis destroyer; and of the SSN–21 *Seawolf,* our new nuclear attack submarine; and of the LHX, which is the Army helicopter. We also have been reviewing the SDI program.

Earlier this year, when I was before the committee, I promised that once the aircraft reviews were complete and we had more information as a result of them, and as we moved through the POM process, and got closer to mark-up that I would come back before the committee and present to the committee our current thinking.

So I would emphasize this is what we believe today, as we are getting ready to start through the POM process. There may well be some additional modifications in the future, which I will talk about in a minute, but as of the end of April 1990, we think these are the directions we would like to move in, with respect to our major aircraft programs.

In the spirit of cooperation and comity with Congress, I am here today to try to fulfill those earlier commitments.

With respect to budget impact, I think there are a couple of key points to be made. The biggest impact from the decisions that are embodied in my presentation today comes in the out years. Specifically, the total savings in fiscal year 1991 is about $2.4 billion in budget authority. That translates into $109 million in fiscal year 1991 in terms of outlays. And significant savings extend out over the next several years.

With respect to the total package through fiscal year 1994, as you mentioned, Mr. Chairman, this is about $16.8 billion in savings—below what had previously been anticipated. Altogether, over a 6-year defense program, 1992 through 1997, it adds up to $35 billion.

Let me focus if I may on that point for a moment. There has been a lot of discussion about the notion that somehow we need now to crunch down the budget in order to hit the 5-year defense program. We are continuing to do that. But in reality, what we are really doing is we are building the 6-year defense program, the 1992–1997 package.

I am interested in 1992, 1993 and 1994—that is an interesting exercise in terms of presenting information to Congress—but what really counts is that 6-year defense program. By next week, May 1, when the services come back to me with their POM submissions for the 1992–1997 timeframe, those will incorporate that new fiscal guidance. They will be at the minus-2 percent level that I have testified to before the committee.

So, while we have not yet surfaced all those cuts, and some of them will probably not come up until the 1992 cycle when we make our submission next January, the fact is we will soon have in hand, proposed decisions, maybe decisions I do not want to go forward with and that we may change, but we will indeed have in hand the cuts required to hit that minus-2 percent glide path that the President has recommended.

Chairman NUNN. Mr. Secretary, could I interrupt on that point?

Secretary CHENEY. Sure.

Chairman NUNN. This is so important to us from an informational flow and a timing point of view, how much of that information will you be able to make available to this committee, because that is essentially what we are really seeking in terms of information preceding our mark-up?

We have struggled with this, and the General Accounting Office and others have testified clearly that they do not see how Congress can make judgments on the 1991 budget unless we have at least a comprehensive outline of the whole 5 years.

So the question really is, when would we be able to get that or a substantial portion of that informational base that you will have about May 1?

Secretary CHENEY. Well within the normal time. Maybe I can pursue this with the chairman after the hearing and figure out a way in which we can communicate on these numbers and on this basis.

Again, these are internal DOD documents that the services have been working on. They always work on proposals at this stage of the game for the budget submission for next January. That is to say, this is material that would come to Congress in January of 1991 for the fiscal year that begins in October of 1991 and then runs through the 1992–1997 POM, the next 6-year package.

To the extent that there are items in there that have an impact in 1991, all of that is being conveyed to the committee just as this package today over the SYDP affects some $34 or $35 billion, its impact in 1991 is $109 million in outlays, $2.4 billion in BA.

Now, ordinarily, in the past, I do not believe the Department has ever been as forthcoming as I am today in terms of presenting to the committee a part of that POM process, because these are recommendations that will be embodied in our 1992 budgets. But I am perfectly happy to sit down with the members of the committee and see if we can find a way in which we can share with you some of that information.

Again, this is going to be a months long process for me to go through with the services. I do not make that submission to the President until the fall. It will not become administration policy until he has signed off on it next October or November, for the submission that will come to Congress in January. So, we may want to sit down and figure out how we can work around that to meet as many of the requirements as you have.

Chairman NUNN. We look forward to doing that.

Senator WARNER. Could I do a follow-up?

Chairman NUNN. Yes.

Senator WARNER. What about the statutory 5-year program which was required to be submitted to Congress this year?

Secretary CHENEY. We can do that. It is easy enough just to crank numbers into it and set it up. It does not have much meaning at this point without the analysis that goes with what we are currently doing by way of the 6-year defense program that we are putting together for the coming cycle.

Senator WARNER. Well, that is a subject we will have to take up with the committee, Mr. Chairman.

And following on that, are these figures and facts you are giving us today, with a projected $2.4 billion on 1991, to be formalized in a budget amendment, or do we just take cognizance of these figures as we work on it?

Secretary CHENEY. What I would recommend is that the committee simply take cognizance of it and use it in connection with—again, it is a recommendation to the committee. The committee will have to decide whether or not to support it.

Senator WARNER. So there will be no follow-up in the way of a formal budget amendment?

Secretary CHENEY. We do not plan to file a formal budget amendment.

Senator WARNER. We will get incrementally these types of figures and facts as you finish your reviews?

Secretary CHENEY. For example, before you get to mark-up, it may be that we will have concluded our review on the DDG–51 and the SSN–21, the destroyer and the submarine. I am perfectly happy to provide that to the committee as appropriate, and it may be that at some point we want to have an exchange where I would sit down and maybe bring a couple of senior people to meet with the members of the committee and share with you our thinking about where we are going with this longer term package.

I am reluctant to get into the business of laying it out and saying this is the definitive item because we are still very early in the process.

One of the intriguing things that has developed this year—it used to be when you prepared a POM around here, nobody cared very much because it did not embody much change. "Commies were commies" you know. There was a certain predictability about problems in the world, and you were not going to undergo fundamental change in our strategy in Europe. Now, because we have all of these interesting new questions to address, there are significant changes embodied in our long-term planning. A lot of that leaks out through the normal process. Some of it, as today, is being formally provided to Congress in advance. Ordinarily, I do not think there would be that kind of interest.

There was, for example, a story in the Washington Times this morning that I had instructed the Air Force to put the money for MX Rail Garrison back into their submission. Well, I have not seen the proposal where they took it out. It has not arrived on my desk yet. All of that has to do with leaks. So we are in the midst of an interesting process that I think we all have to be a little flexible on, but we will try to be as cooperative as possible, Mr. Chairman.

Chairman NUNN. Maybe that was an anticipatory leak.

Secretary CHENEY. It is possible. I was relieved of one thing, Mr. Chairman. At least they did not zero out the new Air Force One for the President.

Chairman NUNN. I am glad you called that to our attention. We will look at it carefully. [Laughter.]

Secretary CHENEY. All right. If I might, Mr. Chairman, return to my presentation, a couple of additional things to keep in mind. Again, I want to emphasize for the committee that I may be back here in January when we submit the 1992–1997 POM with slight

revisions of the numbers we have here today based upon the work that is underway within the Department now.

I am recommending here that we slip an aircraft by 2 years, the Air Force may feel once we have completed this whole process that they want to come back and reclama that decision—that they absolutely have to have it a year before we have it represented here, and they are willing to trade off something else to get it, to cut force structure in order to modernize, those kinds of issues.

But I think in general, this is a pretty good package. I would offer for my friends the notion that we want to reserve the ability to come back and give you modifications in the future should that be warranted.

Chairman NUNN. We understand that, Mr. Secretary. We know that is part of the inevitable process.

Secretary CHENEY. Another key item to keep in mind that I was struck by, as I wrestled with these decisions, is the time scale involved. Now, we have our debates around here about defense programs as though we were going to buy something and tomorrow it will be in the force. Of course, that is not the case.

What we are talking about now are systems that are going to be available in sufficient quantities to have a significant impact on military capability 20 and 30 years from now. It takes a very long time to implement one of these decisions. The earliest initial operational capability on any of the systems we are looking at today is 1994. That is 4 years off. For many of these we are looking at systems that will not be deployed in large numbers until the middle part of the next decade, 15 years from now.

I am reminded of the track record on the F-15. In 1975, when I worked for President Ford, I remember going to Luke Air Force Base in Arizona to see the first F-15s rolled out. They went operational in 1976. Now, some 15 years later, of course, they are the backbone of our air superiority capability, some 800 F-15s in the force.

Last week I was down at Langley, the Tactical Air Command Headquarters, and flew an F-15C model in the back seat. We are now building the F-15E model which, of course, is our deep interdiction strike aircraft, and we will continue to build that through 1991.

A similar time horizon with respect to the systems we are looking at today. We are talking about aircraft that are going to be in the inventory for 30 or perhaps even 40 years. So, I would urge members of the committee to be aware of the consequences of the decisions we are making here. What we are talking about is not just meeting our budget bogey for an individual year because of the Gramm-Rudman deadlines. That is very important. Or taking advantage of the last 6 months of good news that we have had out of Europe.

What we are talking about is buying aircraft that will be flown by pilots who are not yet born and which will be part of a force available to a President who is probably not old enough yet to vote. It is important to keep that scale of time in mind as we look at the decisions before us.

Now, let me say a word if I may about intelligence and threat assessments and that whole exercise which is very important, espe-

cially when we start to talk about fighters and our deep interdiction aircraft and our strategic bombers, though not so relevant when we talk about the C-17.

Obviously, designing an aircraft for the future is heavily dependent upon what kinds of judgments we make about what the threat will be 15 or 20 years from now, and that in turn is based upon judgments we make about how good our potential adversaries will be. Questions such as what kind of aircraft they will deploy, how fast those aircraft will be, how maneuverable, what kind of weapons they will carry, how good their radars will be, whether or not they will employ stealth technology, how many aircraft they will build, when they will be deployed and the rate at which they will export them to other nations are all very important considerations in trying to decide what we need to build and how fast we need to build it.

We worked with the intelligence community in putting together the threat assessment. It has played a very significant role in designing the aircraft up to now and was a very important part of our review of these major systems. I would recommend the committee give serious thought to holding a closed door hearing where you can avail yourselves of the more technical and classified aspects of the threat that was presented to us. I found it a very useful exercise to go through in terms of thinking about these programs, and the members of the committee may want to do that as well.

Obviously in trying to assess the threat, we focused specifically on Soviet capabilities. We found that useful because they are the state-of-the-art in terms of any of our potential adversaries. They remain our most formidable potential adversary. They produce large numbers of high quality, high performance aircraft, and they export large numbers of those aircraft to other nations. I will come back to that in just a minute.

The Soviets tend to lag about 8 to 10 years behind the United States in terms of deploying capability. For example, we deployed the F-15 in an operational mode for the first time in 1976. Their SU-27, which is roughly comparable to the F-15, was deployed in 1986. Their MiG-29, deployed in 1984. So, we are looking at 8 to 10 years as the normal lag time.

In terms of the systems, if you want to think about the current Soviet threat, it is the MiG-29 and the SU-27, both twin engine fighters, the MiG-29 roughly comparable to the F-16 or F-18 in terms of size, carries six missiles, both have look-down, shoot-down radar. The MiG-29, over 1,000 have been produced, and they continue to produce them at about 150 a year.

The SU-27, bigger, more comparable to our F-15, carries 10 missiles instead of six, plus the gun. It also has the look-down, shoot-down capability. They have some 600 of those currently in inventory and produce about 100 a year.

We, by way of comparison, have some 800 F-15s currently in the inventory, and we are not producing any at present except for the E model which is not the fighter. It is the deep interdiction aircraft, just for frame of reference.

Another key element of our planning has to do not just with what kind of capability the Soviets will have, but how fast the new systems they develop will be deployed elsewhere in the world. Obvi-

ously the Soviets have provided a lot of aircraft over the years to other nations. Right now there are nearly 200 MiG-29s that have been exported to other countries: Cuba, India, Iraq, North Korea, Syria, Yugoslavia, the former nations of the Warsaw Pact in Europe. Numerous other countries have expressed an interest in the MiG-29. So there is both what the Soviets develop internally, as well as what they sell to others that we have to contemplate in terms of trying to assess what our own needs and requirements are going to be.

There is a general consensus I think, that it would be fair to say within the intelligence community, Mr. Chairman, and this is certainly important as we developed our thinking—and this involves the CIA as well as the DIA—we did not deal just with the Defense Intelligence Agency—a general feeling that the Soviets will continue to improve their capabilities, but that there is likely to be a slip in the dates by which those systems with new capabilities are likely to be fielded.

Now, a key element in terms of this whole notion of the future Soviet threat has to do with assessment of the Soviet economy. We had extended debates within the Department prior to the review trying to ascertain or reach some conclusions about what the current crisis in the Soviet economy may mean for future Soviet military production.

In general, we expect the performance of their economy to have some impact upon the kind of priority they assign to military spending and how fast they will be able to bring new systems on. All of this is further complicated by the fact that the Soviets have consistently demonstrated an amazing ability and willingness to devote a very large percentage of their economic outputs to military production.

We think that is going to decline. We saw some declines in 1989 for the first time, but it is important for the members to remember that for 5 years of Mr. Gorbachev's reign, we have only had 1 year of decline in defense spending, in 1989. That even with this Soviet economic basket case they continue to produce, last year, 140 new ICBMs; we produced 12. Last year the U.S.S.R. produced 1,700 tanks; we produced 600.

Most recently, we have all seen a fascinating discussion as a group of Soviet economists here in the United States for a conference sponsored by the American Enterprise Institute chastised the CIA for having a rosy scenario with respect to what was going on inside the Soviet Union. I have had that same problem myself.

The fact of the matter is the Soviet experts claim that the CIA overestimates the size of the Soviet economy but underestimates the percentage of their economic productivity that goes to defense. Interesting debate. We have all of that as the background against which you have to try to guess what their aircraft capabilities are going to be 15 or 20 years from now.

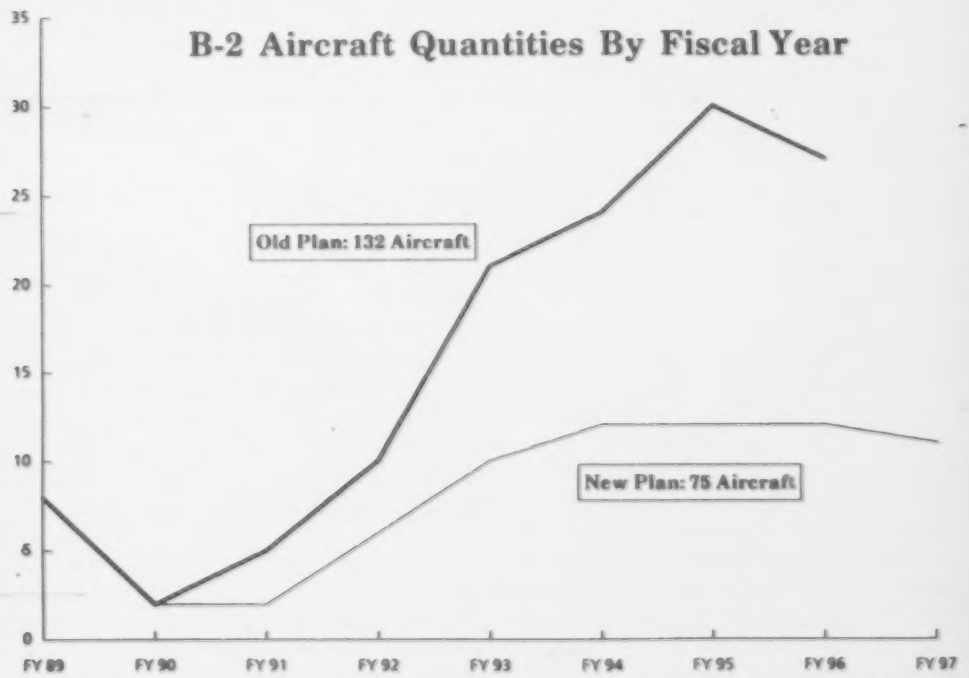
But as a general proposition, I concluded, based upon the advice I received and what is currently available to us today that we can in fact afford to make some changes in our major aircraft programs to either reduce buys because of changed circumstances in the threat or to defer the date at which we bring new systems into the force. I think that will allow us the time to, as you said, Mr. Chair-

man, fly before we buy, and I think that is appropriate in some cases, and I do think changing world circumstances will allow us to make some of the changes that are embodied in the package that I will present to you now at this point.

One final key element to keep in mind, one underlying assumption, gentlemen, and that is the notion of air superiority. It is an easy phrase to throw off. We talk about it from time to time. I think it is absolutely crucial. I am persuaded that it makes no sense at all for us, given our role in the world and the potential use to which we have to put military force in the years ahead, it makes no sense at all for us to invest in second-rate capability. That if you look at history, if you look at the kinds of scenarios you want to portray for the future, our ability to maintain superiority in the air is absolutely crucial, not only from the standpoint of the air battle, but also what we do with our naval and our land-based forces.

Air superior means that we are able to protect our forces from attack by hostile forces. It allows us to provide close air support to our own ground forces and to interdict those of our potential opponents, and it also obviously makes it possible for us to be able to use air power to reinforce and to deploy and resupply friendly forces.

For all of those reasons, air superiority, in my opinion is crucial. And if you buy that assumption, then I think I have a package that makes sense. If members of the committee do not agree with that basic notion that we want to try to maintain our superiority, then there are going to be some major differences in terms of what I have recommended and what the committee may seek ultimately to approve.



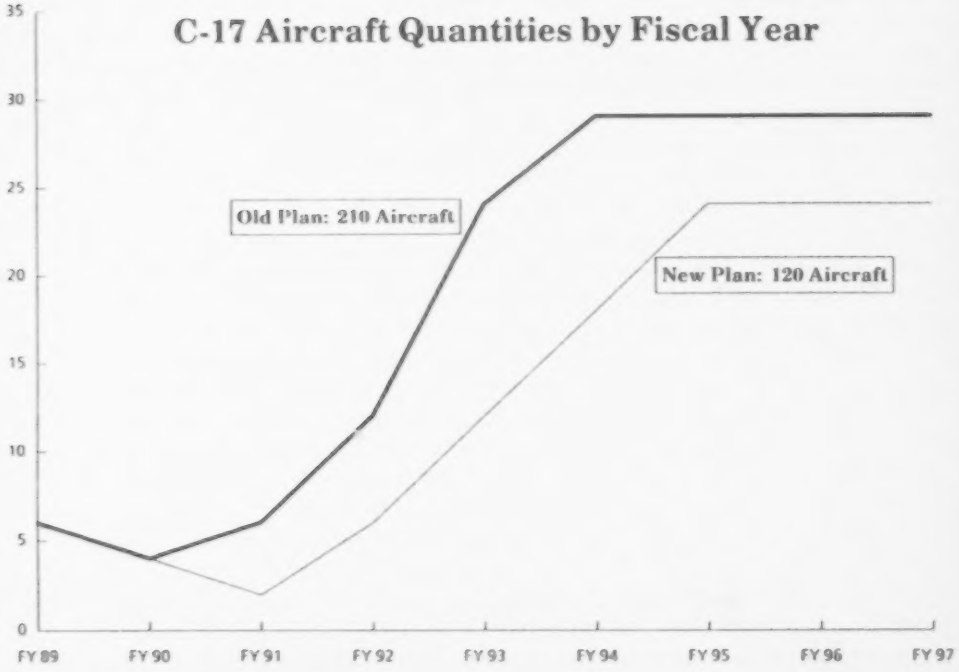
Let me begin, if I may, Mr. Chairman, with the B–2. I do not want to rehash all the arguments over the B–2 here today. I think that it is important for us, in my opinion, to continue to modernize the triad. That requires, in my opinion, the manned penetrating bomber. What we are recommending basically is a program that would reduce the total buy from 132 down to 75 aircraft and would also have the effect of reducing the maximum buy in any given year.

A couple of points to be made here. First of all, in terms of reducing the buy in any given year, one of the problems we had in the past, and that Congress had raised questions about, was the notion that we were going to spend almost $10 billion just on the B–2. The program we have outlined here would allow us to go to a maximum of about $6.5 billion in any given year instead of ramping up to a maximum production of 24 aircraft in a year; we will only produce a maximum of 12. Instead of going for five aircraft in 1992, we will only go with two. We, in effect, slow things down and build up more gradually.

Question: Why 75 aircraft? Why not 40 or 86? The basic rationale is that 75 aircraft gives us what we think is a deployable, manageable asset. It gives us two wings, 30 aircraft each, plus an extra 15 aircraft that allows us to have sufficient spares for maintenance and upkeep and also for training.

If we go much below that level—let us say we went with 15 as some people have suggested, what is currently in the pipeline or maybe even 30 aircraft. We still have all the requirements for logistical support, for spare parts, for training for the personnel. That gets to be an enormously expensive operational proposition. But what we have at the other end of the pipeline is not all that much capability.

So, my judgment, based upon the conversations with the service involved, the Air Force, and with others in the Department was that if you are serious about the B–2, you really need about two deployable wings in order to have a significant impact in terms of Soviet air defenses, in terms of adding to our overall deterrent capability. And for that reason we recommend going to 75 aircraft, a total of two wings. That does save money in 1991. This is one of the few decisions that does, and it saves a little over $9 billion out of the FYDP, about $1.4 billion almost in 1991 as a result of that decision.



On the C–17. The C–17, of course, is our major strategic and tactical airlift aircraft.

Chairman NUNN. Mr. Secretary, did you put a price tag overall on the total programmatic saving on this program? Maybe we could have that as we go along. How much are you saving overall?

Secretary CHENEY. The overall savings on the B–2 comes to, I believe, about $9 billion. The cost to go from this point forward that will be affected by the decision you make as to whether or not we fund it or do not fund it because if we do not fund it, if we were to stop dead today and shut down the program, we would save about $34 billion ballpark versus what we are going to spend if we buy the 75 aircraft. So, about $34 billion is what the remaining 75 aircraft will cost. Now, you have already sunk $26–$27 billion into the program. That is not included in that $34 billion figure.

The C–17, of course, is a transport aircraft. Let me take just a minute and talk about it if I may. There are a couple of things to keep in mind here. First of all, our transport aircraft like the C–17, the C–141, the C–130, and the C–5A, are all obviously significant from a military standpoint, but they are unlike a lot of the other things we buy. They are working all the time, in peacetime as well as in wartime.

You buy a missile, you put it in a silo. Hopefully, you never use it. If you did use it, you would only use it in wartime. It obviously has deterrent capability. A tank—the same thing. You might train with your tank, but you are basically going to use it when you go to war.

Our strategic lift aircraft, is a vital national asset because they are working all the time. When you get ready to do a Panama op-

eration, you have to call them in from all over the world to do that operation. We also use them for non-military missions. If you have an earthquake in California, a hurricane in South Carolina, or if we have to mount a search and rescue mission for Congressman Leland in Ethiopia, these are the assets we use. So, airlift is a vital national asset that has significance, and meaning over and beyond just its military capabilities.

A second key point to keep in mind, of course, is that when we got into the C–17 business initially we were focused especially upon the threat in Europe, upon the need to reinforce Europe rapidly, to have 10 divisions there within 10 days, the current requirement we are signed up to with respect to NATO. We needed, we felt, additional lift capability to do the job.

There is a lot of ideology wrapped up around the question of how many million ton-miles per day we really need. Some people talk about the 66 million ton-mile per day goal that had been laid out there previously as a goal. Some talk about it as a requirement. I started an enormous fight one day in a meeting at the Pentagon because I called it a requirement and the guys who thought it was not a requirement but a goal complained and I said okay, it is a goal, and then all the guys who thought it was a requirement complained. There is a lot of mythology wrapped in this.

Basically, I think there are two things to keep in mind as we assess what our lift requirements are going to be. One is the declining threat in Europe. The fact that we are likely to have months to get back to Europe rather than hours or days. But, at the same time, the likelihood that we are probably going to have fewer overseas bases in the future. While we will have a smaller force, it is likely to be a force that is to a larger extent based in the continental United States. We run into problems with base negotiations in the Philippines. We draw down our force levels in the Pacific. Those forces are likely to be here in the United States and we will need the lift capability to go back rapidly should that be necessary.

Considering all of these factors, Mr. Chairman and members of the committee, and keeping in mind the age of the current aircraft in the inventory, basically, what we recommend is that instead of buying the 210 originally planned, we look at a force that is closer to about 120.

The final decision, obviously, is not going to be made for several years. Congress in its wisdom may decide 5, or 6, or 10 years from now to keep the production line open longer to buy more of this capability. But I think we can do what needs to be done, which basically is to maintain our current lift capacity rather than go up to the 66 million ton-miles per day, which had been the original plan. We can keep our current capacity and basically replace existing capability with the C–17, and that will enhance our capability, but we will end up roughly where we are now in terms of our current ton-mile lift capacity, which is about 48 million ton-miles per day.

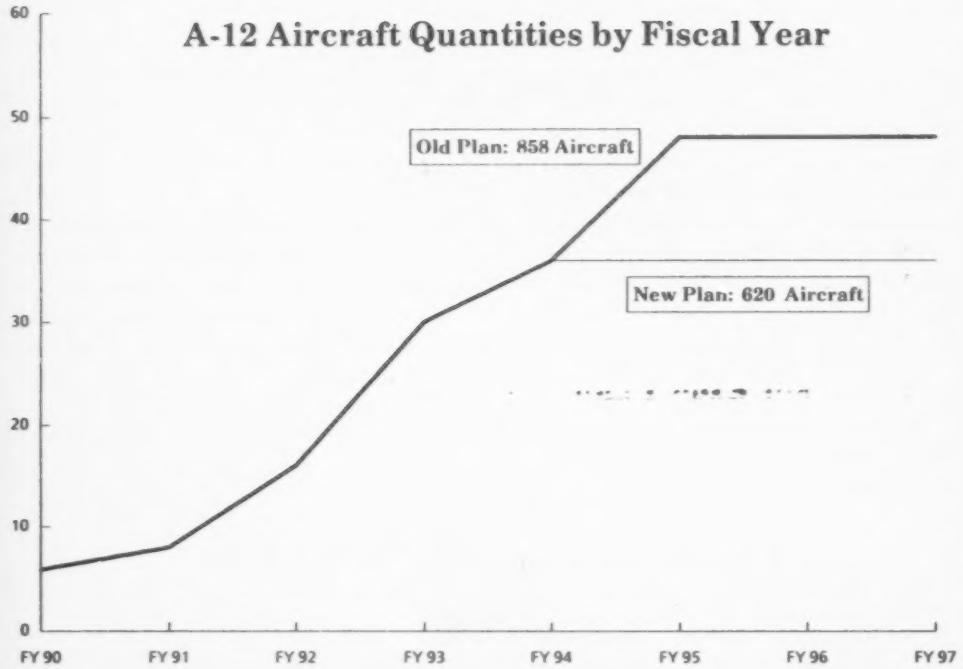
A key point for the committee to consider as you look to the C–17 is that it does represent new capability. It is a better aircraft than we currently deploy. The C–17 is configured in such a way that it can take virtually all of our out-size cargo, as can the C–5, but the C–141 cannot. It has that long intercontinental range. It also has the capacity to operate in and out of short airfields.

I found when I started to dig into this subject that there is a lot more involved in airlift than just how many pounds you can get on an airplane. It has a lot to do with how fast the plane flies, how many airfields it can utilize, how much equipment it needs on the ground, and when it lands and unloads, because that affects the throughput—and how much you can move on and off the aircraft.

The C–17 has been designed specifically to land on short fields, short strips all over the world. It gives us access to a lot more airports than is currently the case—a lot more airfields than with our current capability. To give you just one example, if you took the Panama operation that we did in December, and took all of the forces that we used in that operation—let us assume for a moment we did not have anything in Panama when we started that we had to get 27,000 people down there, and we needed all of the helicopter support and everything else that went with it. The current lift, what we have today, would take 13 days to move the total force to Panama that we used in Panama, taking everything out of the U.S. to get there.

If we had the C–17s in the force instead, we would have been able to do that operation not in 13 days but in 7 days. That gives you some idea of the enhanced capability. The biggest part of that increase comes from the fact that you can use a lot of other air strips in Panama once you go to something like the C–17. If you are flying the C–141s, for example, which we used, they only go into Howard Air Force Base or Torrijos, which the PDF held, and we could not use. So, again, when you are thinking about the C–17, you should look at it in those terms.

My recommendation is that we think more in terms of 120 and instead of a peak year production of about 29, we slow that to about 24 per year. We have to go forward with the C–17 program.



The third aircraft I want to talk about is the A–12. I think the A–12 is an important capability for us to have. One of the key considerations in terms of looking at the A–12 is to keep in mind that this is the basic strike aircraft for our aircraft carrier force. Strike aircraft are, in fact, the reason you have aircraft carriers. The F/A–18, which is still in the force in significant ways, has some ground attack capability but has limited payload and limited range.

What the A–12 represents is stealth. It has long range, it has a big payload and basically is intended as first and foremost the replacement for the A–6 that currently is in the inventory. The A–6 is an old aircraft. The A–6 is so old that we were using it when John McCain was a pilot. [Laughter.]

It is manpower intensive. The ones we have in the inventory have a lot of miles on them, a lot of hours on them. It is a difficult aircraft to maintain. It takes a lot of spare parts. And we think it is crucial that we replace the A–6.

We looked at various alternatives. We looked at finding ways to extend the A–6 or reopen the production line. Every alternative we looked at basically led us back to saying, we think we should go forward with the A–12, it is a good system, the program appears to be reasonably well-handled at this point.

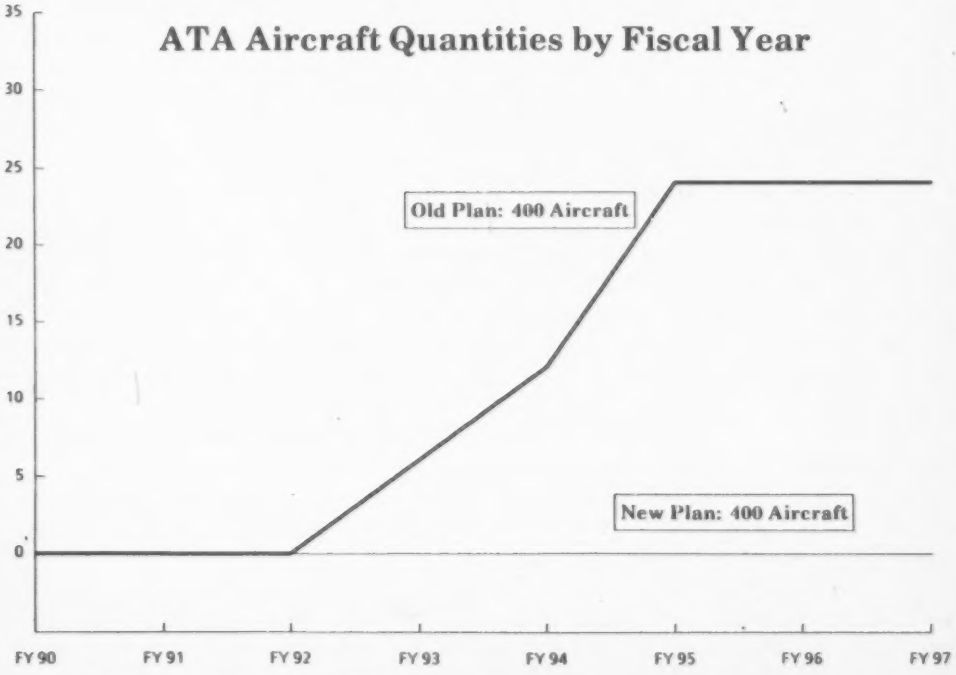
The change we would make—and this brings us to a sensitive subject that I need to raise at this point—is to reduce the total buy. The Marines, I think, are generally reconciled in the notion that they will not go with the A–12. I do not know that that is news to the committee; it has been kicked around out there for some time.

But the original proposal to buy 858 of them at some 48 a year involved buying them for the Marines.

The second thing that drives your A–12 buy, obviously, is the number of aircraft carriers you are going to have in the fleet. I have not yet made a decision and for all of the aircraft carrier advocates in the group, and for all the aircraft carrier opponents in the group, I want to reserve final judgment on how many carriers I think we should have in the future.

I think the Navy and the Department should have the opportunity to work that question over the next few months. It clearly is going to be looked at as part of the POM process. But if we would go to 12 carriers, take two out of the force, then, you will need 620 A–12s instead of the 858 that originally had been planned. That is a decision, again, to be made down the road. But that will give you some idea of the magnitude of the change we are looking at.

We do recommend reducing the rate at which we produce the A–12 to 36 instead of 48 a year.



The A–12 obviously has been developed in tandem with what is referred to as the ATA, the Air Force designation for the A–12, the deep attack aircraft, stealth that would perform the same mission for the Air Force. The ATA has been staggered behind the A–12.

There is an awful lot of compatibility between the two systems. The ATA would need some changes. It turns out the Air Force has a different refueling system than the Navy does, different targeting systems, different requirements between the Navy and the Air Force in terms of the strength of the undercarriage, the structure and so forth. But there is enough there that there is a good simpatico relationship between the two systems.

The Air Force, though, is not in the same position the Navy is with respect to their current aircraft. The Air Force does have the F-111 currently in the inventory, although that is gradually coming out over time. Most especially, we are still producing the F-15E, the deep interdiction strike aircraft for the Air Force. I visited that down in St. Louis just a few weeks ago. We will have some 200 of those in the inventory through the 1991 buy.

The Air Force has the F-117, which has some limited capability in this area. I do not want to oversell the payload of the F-117. It is not nearly as great, nor is the F-117 as capable as the ATA will be. But it is stealthy. It does have the capacity to operate in some specialized missions in ways that we basically need.

The other thing, of course that has happened is, the basic mission for which we planned the ATA that the Air Force required this for was that battle in Europe. The need to go to war and interdict the massive Soviet forces moving the Warsaw Pact against Europe, against NATO. To the extent that that requirement is reduced now, the need for the ATA is not as great as it once was.

We also think we will learn a great deal from the A-12 about the ATA. And for that reason, all those considerations, Mr. Chairman, I am recommending that we push off production on the ATA up to the end of the SYDP. In other words, instead of going with production as originally had been planned beginning in 1993, I think, we can defer it to the end of the 6-year program.

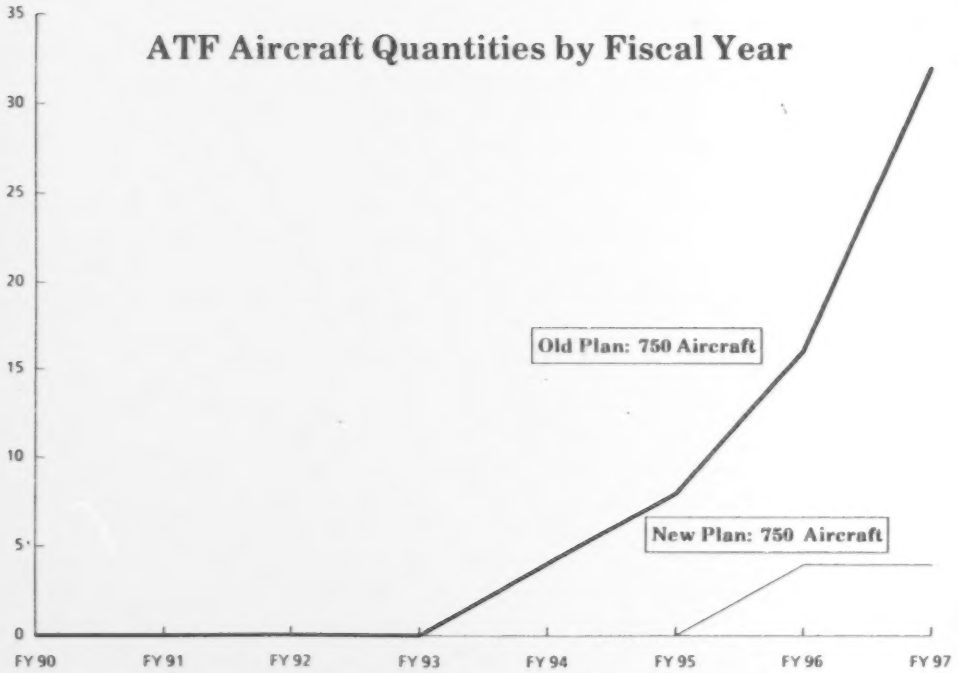
Chairman NUNN. That will also give you more opportunity to test before you go into production. Will it not?

Secretary CHENEY. That is correct. And it will also give us the experience that we will gain from working with the A-12.

I do think—and this is something to reserve judgment on, the committee obviously has some views about it—it is important at this point to keep the Air Force connected to this program. It does not make a lot of sense to go out and completely reinvent the wheel in terms of our deep interdiction mission, given what we have already invested in this, and given what the Navy is doing with the A-12.

So, I think, there is reason, and I recommend spending modest amounts by the Air Force on this program over the next few years, working, for example, those systems that are different for the ATA than for the A-12. But to keep the Air Force connected in this regard, I think, makes sense.

So my recommendation is we defer the ATA.



The final category, of course, is the Advance Tactical Fighter, and the naval version of it, the NATF. Again, land-based, air-to-air combat, this is our air superiority fighter of the future. It is stealthy. It has significant speed, supercruise capability.

The original plan had been to buy some 750 of these aircraft, beginning production in 1994, and reaching a maximum production rate of 72 per year in 1999. This, perhaps, more than in any other area, turns upon your assessment of what the Soviet threat is likely to be, and how soon it will be a factor that we have to consider and to deal with.

The basic recommendation we are making, is that instead of starting production in 1994 we start production in 1996; instead of ramping up to the maximum rate of 72 per year in 1999, we recommend a maximum rate of 48 per year in the year 2001.

The other significant point with respect to the ATF, of course, is the size of the total buy. If we shrink the Air Force, we are not going to need as many aircraft as originally had been anticipated. I am not prepared to give you a hard and fast figure today, but I will simply say that when we come back after we have reviewed the force structure requirements through the POM process, we will recommend something less than 750 ATF as the requisite buy.

I want to come back and emphasize to the members what I think is the importance of not walking away from that concept of ultimately building this aircraft. The only issue in my mind is timing, and how soon we need it in light of what we see by the way of the developing threat.

The naval version of the ATF, of course, has, up until now, lagged about 2 years behind the ATF. They have been moving in

lock step. I propose to leave that lag about where it is, as you slip the ATF, you are going to slip the NATF. Now, this raises some difficult questions, and I cannot provide definitive answers for you today; we obviously will in the future.

One of the things I mentioned earlier, of course, is this question of the size of our carrier task forces, how many air wings we are going to need. But another thing that figures in here, of course, will be the fact that the NATF is intended as the replacement for the F-14. We have all had extended debates about the F-14 over the last year. I have asked the Navy to go back and look at this. We want to make certain we do not end up with a gap between when the last F-14 is available to us, and when we will have the NATF available.

The Navy has been instructed to begin a study to look at how we deal with the outer-air battle. It may be now that we have new capabilities, for example, in the A-12, that may be able to pick up some of that slack. All of these are open questions, but I think it has been a long time since we looked at the makeup of a carrier air wing and the exact number of aircraft we have across the force. I have asked the Navy to go back and relook at all of that.

Obviously, all of this will be heavily impacted by the total number of carriers we ultimately decide to go with.

The old buy would have been some 618 of the naval version of the ATF, starting in 1998. What we are recommending now is, if we end up recommending 12 carriers, it would be a lesser buy, more like 546, and you would begin production in the year 2000. It would slip 2 years.

Finally, Mr. Chairman, there are a number of other details we could get into, but I think it would be significant to allow the members to ask questions at this point. I think this is a good package. I think it accurately reflects what we see out there by way of the evolution of the threat.

I think it is important, though, for us to remember, and I have not argued this before the committee before, but I am approaching the point where I think it is an important consideration. We do in fact have to preserve our defense industrial base.

It is one thing for us to talk about efficient production rates. I have been up here and argued strenuously the importance of maintaining rates at efficient levels so that we reduce the unit costs to the maximum extent possible. We are now getting down to buying so few systems over a long period of time that I do think we have to keep in mind that we want to keep a base out there that is capable of producing these kinds of systems. Therefore it is not an unimportant consideration as we think about how we want to conduct these major aircraft programs over the next 10 years.

Thank you very much, Mr. Chairman.

[The prepared statement of Secretary Cheney follows:]

STATEMENT OF SECRETARY OF DEFENSE DICK CHENEY IN CONNECTION WITH THE DEFENSE MAJOR AIRCRAFT REVIEW

Mr. Chairman, Members of the Committee:

In my testimony before this committee in early February, I stated that I had initiated a detailed review of four major aircraft programs now planned for acquisition: the B-2 bomber, C-17 transport, A-12/Advanced Tactical Aircraft (ATA), and Advanced Tactical Fighter (ATF/NATF). I assured the Committee that I would give you my decisions in response to that review before you began your markup. Today I am here to do that.

Following the budget cycle set by law and custom, a Secretary of Defense normally would not be before this committee with these decisions until the FY 1992-93 DoD budget was submitted next January. But because of changes in the world and tight budget constraints, I thought it important to give you our latest thinking. The results of the Major Aircraft Review will be integrated into our FY 1992-97 program and our FY 1992-93 budget request.

These assessments and decisions are preliminary in the sense that future developments could necessitate changes. Moreover, final decisions on our future force structure clearly would affect the size of our procurements.

I have made reductions in every program that was part of the Aircraft Review. Based on changed world conditions, every one of them can be cut back, some substantially. As a result of our decisions on cutting back these aircraft programs, we can save $16.8 billion from now through FY 1994. Based on a preliminary estimate, savings for FY 1995-97 may approach $18 billion.

I would like to begin by explaining our revised assessment of current aircraft needs for the defense of American interests.

ONGOING CHANGES IN GLOBAL THREATS

Sweeping changes in the international environment and increasing fiscal limitations were taken into account in reviewing these aircraft programs. In my appearances before this committee and others in the last few months, I have described at some length the changes in the international environment that have shaped our defense debate. Nonetheless, I would like to highlight today changes of particular importance to the aircraft programs that the Department reviewed.

Foremost among changes we considered are the fundamental transformation in the Warsaw Pact and developments within the Soviet Union itself. The Soviet Union can no longer count on the forces of Eastern European countries to support aggression against Western Europe. Moreover, the Soviets have announced reductions in their forces in Eastern Europe, have made some withdrawals in line with these promises, and hold out the prospects for even greater reductions under CFE. However, after all the reductions contemplated on both sides, the Soviets will still have the largest military force on the European continent.

When these force reductions are actually completed, the initial strategic situation facing NATO air forces will be altered. As one element of such change, we anticipate that NATO will face fewer enemy aircraft and a reduced ground threat. We

can also expect that NATO will no longer face robust air defenses in non-Soviet portions of Eastern Europe during initial hostilities. Thus, although the Soviets will still be capable of bringing to bear sophisticated mobile antiaircraft defenses if they should advance into Eastern Europe, NATO aircraft will not, at the onset, have to contend with the additional complications of several hundred miles of dense, preexisting air defenses. This does not diminish, of course, the formidable integrated air defense NATO would expect to encounter in close proximity to the Soviet Union itself. Soviet SAMs, both fixed and mobile, are extremely capable; Soviet fighter aircraft are today a match for our own.

Political and economic developments in the Soviet Union offer hints of other changes to come. However, there are unfortunately many obstacles and potential detours between the Soviet people and democratic freedom. Events in Lithuania remind us of that.

While the political course of the Soviet Union remains unclear, the Soviets' economic problems are well known. Soviet GNP is declining, and they have yet to take the bold reform measures needed to turn this situation around. However, economic decline will not necessarily determine the size of the Soviet military budget; the Soviets have for years spent more on their military than they could justify. Even though we may find their systems delayed in development or introduction into the force, due in part to their economic problems, the Soviets' military budget will remain large enough to support their high priority programs. We expect the Soviets will continue to develop and field advanced air defenses, comprised of fixed and mobile surface-to-air missiles and combat aircraft to include, in the future, stealth fighters.

We expect that the Soviets will continue modernizing their strategic nuclear forces within the predicted constraints of the contemplated START Treaty. This modernization, the continued improvements of Soviet air defenses, and the potential for Soviet progress in missile defenses make it important to continue with the modernization of our triad of strategic forces--submarines, ICBMs and bomber forces. Our bomber forces currently fulfill both a standoff role, using cruise missiles, and a penetrating role. Each has its own status under the current text of the START Treaty, and each adds to the versatility of our force as a whole.

We expect both standoff and penetrating bombers to continue to serve crucial roles. However, Soviet air defenses, both missiles and fighter aircraft, will pose an increasing challenge to our current systems. Our confidence in the ability of our current bomber forces to complete their mission diminishes greatly toward the turn of the century. This is particularly true should we expect the bomber leg to serve as a fully independent leg of the triad without defense suppression by other legs. Such independence has been a fundamental tenet of our successful strategic policy under successive administrations for decades. A bomber force capable of penetrating Soviet airspace deprives the Soviets of the opportunity to focus on far forward air defense against cruise missile carriers. Thus, such a capability enhances the prospects of standoff systems as well. In addition, manned penetrating bombers can assess damage, can decide whether to release their weapons or withhold them, and can be used for a host of other missions, including conventional ones. Finally, but most importantly, we have always believed that bombers, because of their relatively slow flight time and

human control, are a stabilizing element. Our arms control position reflects this basic conviction. We negotiated hard and successfully in START to get rules that would encourage movement away from destabilizing ballistic missiles and toward bombers.

Even though the likelihood of a major conflict in Europe is diminished, the potential remains for conflict in other regions of great importance to us. We must stand ready to deter such hostilities or, if necessary, meet the threat they pose. In the past few years we have seen the need to project our forces into Panama, in this hemisphere, and to the Persian Gulf, on the other side of the world. These crucial roles for our forces entail the need for both long-range transport and tactical air power, land- and sea-based.

Our military air transport fleet is a national asset. We use it extensively in support of disaster relief, as well as for everyday military business. The victims of Hurricane Hugo in the Virgin Islands and Puerto Rico, and the rescue teams flown to Africa with their equipment to search for Congressman Mickey Leland, understand that our cargo aircraft have important uses, besides their main missions of hauling combat troops and material to war zones. Our objectives--to deter war and to prevail if we have to fight--both hinge on the same critical requirement: the ability to bring power to bear quickly. A single aspect of our aircraft requirements, the need to close rapidly the full weight of our forces in Europe, will be substantially reduced by likely changes there. But the other needs remain. In regional crises, we will need to deploy rapidly--to distant areas with small airfields--U.S. forces fully-equipped and ready to fight.

Regional crises will also challenge our tactical air power. We cannot be sure where our forces might be needed. In the coming era, we may come to rely less on overseas bases. The need for the long reach offered by air power, and the sea-based air power in particular, will increase. In a crisis overseas the first thing somebody asks is, "Where's the nearest aircraft carrier?" But a carrier is only as effective as the planes it carries. Today's carrier pilots face increasingly sophisticated air defense threats. Highly capable combat aircraft and surface-to-air missiles are already present in some parts of the Third World and are expected to be more widely available by the end of the decade. This is particularly true given the increasing pressure on arms manufacturers to find new markets. Such defenses can be especially thick around the potential targets we and our adversaries most highly value. One solution to this problem, "Stealth," or the ability to evade defenses, offers a number of advantages. These include frustrating adversaries' past investments and reducing the total number of aircraft required for a mission.

In assessing the impact of the changing world environment on defense needs, let us for the moment set aside any doubts about the prospects for reform in the Soviet Union and make optimistic assumptions about the future course of events. We can then envision a world marked by a more democratic, less threatening Soviet Union; successful arms control negotiations on conventional and strategic forces; and a democratic Eastern Europe, free of Soviet troops. Indeed, I have directed the military departments to plan their forces for the mid-90's on exactly these assumptions. Needless to say, there are reasons to doubt that the world will be so fortunate, and therefore Soviet actions must be monitored closely. But even in this assumed optimistic world, we would still need quality forces, forces with three key characteristics, which must be kept in

mind as we evaluate tomorrow's aircraft needs.

• First, the need for flexibility. Future security challenges are likely to prove diverse; the world is rapidly changing. We should choose systems, including aircraft, that multiply our capabilities by increasing our flexibility.

• Second, the ability to reconstitute our forces. As we cut our forces, we need to keep an eye to retaining an ability to rebuild them, perhaps rapidly, should our hopes and expectations be disappointed.

• Finally, the need to exploit our strengths: sea power, air power, and our ability to deploy forces rapidly at long distances. These are areas where we can best assist allied and friendly nations. Our current lead in technology and a steady investment policy heretofore has enabled us to preserve these strengths. We therefore should continue to exploit the advantages our technology offers us.

THE AIRCRAFT REVIEW PROCESS

Turning now to how this aircraft review was conducted, I want to stress that I took measures to make this assessment as comprehensive as possible. I also sought to draw on diverse sources and views. The completed review fulfilled my guidance and gave me high confidence that my decisions in response to it were based on solid analysis.

The effort was led by a Steering Group reporting to Deputy Secretary of Defense Don Atwood. It was composed of the Under Secretaries of Defense for Acquisition and Policy, and the Chairman of the Joint Chiefs of Staff. The Under Secretary for Acquisition chaired this group, and the Secretaries of the Military Departments, Assistant Secretaries of Defense, and DoD Comptroller actively participated.

This Steering Group was supported by a working group for each aircraft. These were composed of staff experts on policy, strategy, requirements, acquisition, and pricing. Visits were made to research and production facilities by both the working groups and the Steering Group. The working groups met several times each week, ad hoc task forces met almost daily, and the Steering Group assessed progress and resolved questions at weekly meetings.

The review included a reexamination of U.S. national security objectives and interests, the global threats to them, and the best strategies for countering those threats. Scenarios were developed reflecting the likely demands to be placed on U.S. forces in the foreseeable future, and these forces were graded against those scenarios. Where shortfalls were identified, we examined various program options, including several procurement plans for all four aircraft, to determine how best to overcome the deficiencies.

The final results of the working groups were examined carefully by the Steering Group, and its assessments presented to Deputy Secretary Atwood and me.

DECISIONS DERIVED FROM THE AIRCRAFT REVIEW

Throughout this review, our goal was to ensure that we have the flexibility and the capability to protect vital U.S.

interests. We examined a wide range of options and capabilities within the context of airlift, attack, air superiority, and bomber aircraft types to meet expected contingencies. As you would expect, there were no simple answers. In formulating our decisions, we took careful stock of our defense needs, available technology, acquisition efficiency, and tight budgets.

B-2 Advanced Technology Bomber

The B-2 is an intercontinental bomber that employs low observables, or stealth technology. Its primary mission is to help America deter a nuclear attack by providing the bomber leg of our strategic triad with an independent capability to penetrate likely Soviet air defenses well into the next century.

Our evaluation of the B-2 took into account that the Soviets continue to modernize both their strategic offensive and defensive forces, and that our strategy of deterrence will remain credible only if our triad of forces retains the capability to inflict unacceptable damage on any potential enemy. Additionally, a key U.S. goal in arms control is to improve strategic stability. One of our principal means of advancing that goal is to increase the importance of slower flying systems, such as the B-2. This is reflected in our START position, and its acceptance by the Soviets represents an important success.

The B-1B would not be a good long-term substitute for the B-2, because it lacks the stealth characteristics that will be a prerequisite to assured penetration into airspace through air defenses well into the next century. B-1 and B-52 bomber force mixes also would be inadequate in light of this deficiency.

The B-2 combines long reach and massive payload with high survivability--a combination that opens up new avenues to support U.S. interests--to deter, deliver a tailored response, or hit hard if required. In some circumstances, B-2s could respond more quickly, expose fewer lives, and operate, in terms of overall cost, less expensively. The B-2's flexibility makes it the only element of the triad that makes key contributions in both conventional and nuclear roles. In fact, the B-2's conventional capabilities will become increasingly important as forward forces decline and the need for rapid, decisive global power projection increases. Therefore, I concluded that continuation of the B-2 program was the best alternative.

Our original plan was to procure 132 B-2s through FY 1997 at a total program cost of $75.4 billion. However, the changing face of Europe and promising trends in the Soviet Union allow us to reduce our total B-2 purchase without excess risk. I now propose to procure a total of 75 B-2s at an estimated total cost of $61.1 billion. This will be sufficient to deploy two aircraft wings. These two wings will provide the minimum essential target coverage to capitalize on the penetrating bomber role. I also have directed that FY 1991 procurement be reduced from 5 aircraft to 2 to allow additional testing before production is significantly increased. The maximum yearly production quantity has been reduced to 12 aircraft per year. This will result in a slower activation of B-2 squadrons.

C-17 Transport

The C-17 aircraft program has been at the forefront of DoD's response to our airlift shortfalls. It will be capable of

performing the entire spectrum of airlift missions and is specifically designed to operate effectively and efficiently both intra- and intertheater. The C-17 can utilize the shorter runways typical of third world environments and also provide direct delivery of outsize cargo, enhancing our battlefield support posture.

The likelihood of a theater-wide conflict in Europe with little warning, coupled with the threat of simultaneous conflict with regional powers, has in the past driven us to seek a air transport capacity goal of 66 million ton miles per day. But clearly, circumstances have changed. Nevertheless, our most effective means to deter such conflict is to be able to react with a rapid buildup of combat power. Airlift forces must quickly respond, often to distant areas with small, limited capacity airfields. The multi-role airlift fleet will ensure that the needed capability is available into the foreseeable future.

Today, in our mixed fleet of long-range (strategic) C-5s and C-141s, and short-range (tactical) C-130s, we possess the world's best airlifters. But our C-141s are beginning to wear out. Many options, including the use of commercial aircraft, mixed buys of new C-5s and C-130s, and refurbishment of the C-141s, were examined. The C-17 offered the most capability at least cost in every case. The C-17 has twice the capacity of a C-141. It can carry any outsized equipment the C-5 can handle. It will operate at intercontinental ranges into austere airfields--projecting our troops directly into the battle area, with their full range of equipment, ready to fight. The C-17 is our best airlift option for all likely scenarios in all regions of the world.

The original plan was to buy 210 aircraft for a total cost $41.8 billion, thereby expanding U.S. military airlift capability by approximately one third. I now have concluded that this number of C-17s exceeds the requirements of the newly emerging strategic environment and can be reduced to 120. This would save about $11.9 billion over the current program and would maintain our existing lift capacity. I also propose to reduce FY 1991 procurement from 6 to 2 aircraft, to allow additional flight testing before increasing production.

A-12

The A-12 aircraft is an all-weather, medium attack aircraft that will perform the primary power projection mission within our carrier battle groups. Its superior range and survivability characteristics will counter improvements in air-to-air and surface-to-air threats that limit the effectiveness and survivability of our aging inventory of A-6 aircraft.

Our carrier A-6 aircraft are at the end of their service life--they are simply wearing out. Some are grounded for repairs due to metal fatigue cracks, while others fly within severe performance constraints, limiting their operational effectiveness. Retirements due to age leave us below the required inventory. Our analysis shows that reopening the A-6 production line is not prudent. The 40-year old airframe design would be unable to deal with projected threat improvements after only a few years of use--well short of the expected aircraft life.

In a power projection role, attack aircraft must be able to elude advanced surface-to-air missiles and fighters and bring

firepower to bear against sea and land-based targets. Survival in this role will require stealth as improvements in technology make it increasingly difficult for older, slower, less maneuverable airframes to avoid detection and engagement. In amphibious operations, many potential adversaries' land-based air defense fighters and surface-to-air missiles will be as modern as some Soviet and Western systems. These defenses will contain a myriad of air defense weapons. Interdiction of an opposing force's ability to reinforce and sustain its land or sea combatants will remain essential to the success of U.S. operations. The A-12 will provide impressive power projection and interdiction capabilities to our tactical forces.

The current A-12 program proposed procurement of aircraft based on a force structure of no less than 15 aircraft carriers. I reduced our carrier force structure through the rest of this century to no more than 14 carrier battle groups in our FY 1991 budget submission. But it may be necessary to scale back further our active aircraft carrier force structure in order to accommodate DoD's declining future budgets. Consequently, I have reassessed the A-12 procurement objective and determined that 620 is the minimum requirement. This is down from the 858 planned. Another reason for this reduction is that the original program included procurement of A-12 aircraft for Marine Air Ground Task Forces, but we have determined that the A-12 is not essential to their aviation needs.

The U.S. must maintain the capability to project power through the use of naval strike forces. These forces enhance deterrence through their ability to maintain a forward presence, ensure an early response to a crisis, and provide the flexibility to address a variety of threats without relying upon the availability of facilities on land.

ATA

The Advanced Tactical Aircraft (ATA) is the Air Force version of the Navy A-12 and would be used for the deep attack mission, which now is handled by a combination of F-111/FB-111 and F-15E aircraft.

The current Air Force interdiction fleet of F-111s and F-15Es will approach the end of their service lives just after the turn of the century. The advance and proliferation in technologies from multiple suppliers will present an array of new and more sophisticated air defense systems. These air defense systems will gradually diminish the current aircraft fleet's mission effectiveness. As noted earlier, changes in the Warsaw Pact will reduce these threats both in number and in intensity in Europe. Moreover, economic pressures in the Soviet Union itself may delay the deployment and introduction of aspects of Soviet air defense systems. Nonetheless, while we are hopeful for continued progress in reducing the prospects for superpower confrontation, we must not ignore the growing number of other worldwide challenges to our interests.

The existence of the A-12 provides a strong hedge until the threat or F-111 airframe life requires the ATA to be initiated. This natural evolution of the A-12 to the ATA, combined with the expected service lives of current aircraft, allows programmatic procurement flexibility with acceptable operational risk and little degradation of the R&D base. I believe we will have time to adjust the program if necessary to meet adverse developments that exceed our projections.

Our original plan called for ATA production beginning in FY 1993. I now conclude that we can safely defer production of the ATA beyond the six-year defense program. This decision will not affect our plans to maximize the commonality between the Navy and Air Force programs. If a future threat justifies acceleration of the ATA program, these synergistic development efforts will permit timely response.

ATF

The Advanced Tactical Fighter (ATF) is the Air Force's next generation air superiority aircraft, designed primarily to counter improvements in Soviet aircraft and surface-to-air threats.

In order to project power into an area, air superiority is required to prevent attacks on airlift or naval battle groups enroute to the area and ground units already there. It also enables us to protect these forces throughout a conflict. Air superiority over the battle area allows the ground or maritime commander the freedom to operate and deal with opposing surface forces without being impeded by enemy air. An air superiority aircraft must find, engage, and defeat enemy aircraft before they reach our friendly ground, amphibious, or maritime forces. This requires going out to meet enemy attackers who will be protected by modern fighters and surface-to-air missiles.

The Soviet fighter threat has reached essential technological parity with us. We must not allow them, or anyone else, to dominate in the future. That requires an aircraft that will detect all known and potential aircraft. To get our aircraft to the fight will require inherent survivability characteristics. Firepower and speed combined with extended range are the keys to success. Stealth-like characteristics reduce the opponent's ability to find and engage our aircraft from the air or ground. Once in an engagement, stealth becomes the dominant factor because it allows our pilots to identify and destroy an enemy aircraft before it can detect our fighter. Stealth enables us to look first and shoot first.

A number of alternatives to the current ATF program were evaluated against several critical performance measures, including the F-15, F-16, and single engine ATF variants. The results supported the current twin engine ATF as the most effective platform for the air superiority mission.

Political changes in Eastern Europe and economic changes in the Soviet Union discussed earlier reduce the urgency of beginning ATF procurement. Also affecting our ATF decisions is the likelihood that the initial strategic situation facing NATO would involve fewer enemy aircraft, a reduced ground threat, and a less robust air defense threat over Eastern Europe itself. In addition, while we expect the Soviets to continue to field even more advanced air defense systems, the development or introduction of these systems may be delayed.

Another factor affecting ATF procurement is the possibility of a longer service life for the F-15. Assuming a conservative 6,000 hour operating cycle, the current F-15 fleet would begin to retire in the year 2000. However, the Air Force is still doing fatigue life testing, and there are indications that the F-15 airframe life could be extended to 8,000 hours.

If a longer airframe life of the F-15 is demonstrated, procurement of ATF replacement aircraft could be delayed for two

years without adversely impacting approved force structure levels. The current plan calls for initial procurement of ATF in FY 1994. I now believe that initial procurement can be delayed until FY 1996, which permits orderly completion of the demonstration/validation phase and a gradual production profile. This acquisition strategy should substantially reduce concurrences and facilitate orderly testing. In short, we are going to make sure the ATF works well before we launch into full-scale production.

The ATF force level objective remains at 750. That level is driven by our current assessment of force requirements. However, we are now engaged in an overall review of our total force structure, and that review may have an impact on the number of ATFs that will be required.

NATF

The NATF is the Navy version of the Air Force ATF. The NATF will perform the outer air battle mission currently being performed by the F-14 aircraft.

Several aircraft variants, including the HORNET 2000 and TOMCAT-21, were considered as alternatives to the NATF. Each of these alternatives were judged deficient in one or more critical performance measures such as range, payload, maneuverability, and survivability.

The current F-14 airframe life is rated at 6,000 hours, but 8,000-8,500 hours could be achieved with relatively minor structural modifications. This additional F-14 service life--combined with probable reduction of deployable carrier battle groups, which will further reduce the operating tempo of the F-14 fleet--convinced me that NATF procurement should be delayed two years. I also concluded that our planned procurement can safely be reduced to 546 aircraft.

CONCLUSIONS

The United States will continue to respond positively to changes in the world, planning for the arms agreements and other positive developments that we reasonably should expect. We must, of course, under all circumstances maintain the military strength necessary to protect the United States and advance its interests around the globe. My decisions on these major aircraft are consistent with this approach.

The attached table shows the total estimated FY 1991-94 savings resulting from my decisions. These savings will narrow the gap between the budget adjustments identified in the FY 1991 budget and the Administration's approved FY 1992-94 topline.

Again, these decisions are based on an exhaustive review of U.S. defense needs and capabilities. They are aimed at deriving the most prudent and affordable defense program to meet future challenges. I urge your support for these important decisions.

DoD SAVINGS FROM AIRCRAFT REVIEW

(Dollars in Millions)

AIRCRAFT	TOTAL ADJUSTMENTS FY 1991-1994
A-12	200
ATA	1,741
ATF	1,252
NATF	216
B-2	9,270
C-17	4,156
TOTAL	16,835

Chairman NUNN. Thank you, Mr. Secretary.

I know this reflects an awful lot of hard, long hours of work by you and everybody on your staff, and the services involved. This review is going to be very helpful to us, so we thank you for it.

The first question I have is force structure. You alluded to it several times, the number of carriers we may have, the number of fighter wings we may have, has a huge effect on how many A–12s, how many ATAs, how many ATFs, and how many NATFs we have. How can you make the decision on the numbers without having a firm force structure in mind?

Secretary CHENEY. What I have given you, Mr. Chairman, is two alternative numbers, I think, presented in our testimony, of what the current buy is and how that buy will change with respect to the various aircraft. I think we can go forward and make the decision on the C–17 and on the B–2. In both cases what we are talking about is fairly clear cut.

Chairman NUNN. I was thinking of the other systems.

Secretary CHENEY. The other systems depend very much upon what we finally decide with respect to aircraft carriers and what we decide with respect to the Air Force, the number of wings.

I can tell you with some degree of conviction, both the Navy and the Air Force are going to be a lot smaller in the future than they are today. If current trends continue and if the kinds of budget guidance that I am currently working with holds, they are clearly going to have to get smaller.

I have been reluctant to simply stand up and enunciate a force structure and say, okay, Navy, this is your force structure; or okay, Air Force, this is your force structure, because I think we have time to work the problem. I wanted to have the advantage, and the benefits, among other things, of having the CFE agreement signed

and being able to go through this POM cycle, so that we work it and get the best thinking in the Department on this.

In the final analysis, the decisions on things like how many ATF we buy does not have to be made in 1991. I have given you notional numbers here. As I indicated in my opening statement, the Air Force may come back in and be persuasive this year in saying, look, we will surrender two or three wings in order to get that airplane a couple of years earlier, because our judgment is we need it then. We may come back with that kind of recommendation. But you will have from us by the time the 1992 package comes up, very detailed and elaborate plans with respect to what we think will be required in terms of long-term force structure.

We clearly are looking at, if you look at the newspapers today, that is, the account of Secretary Stone, what he is thinking about with respect to recommendations, in terms of the total size of the Army. We know the Army is going to come down. The only question is how far will it come down. We have already recommended changes for 1991. We will recommend additional changes, as well. The same is true across-the-board.

It would be nice if I could come up here and give you a final definitive package, but if that is what we want, then we are going to have to wait until January. My effort today is to try to give you as much guidance as I can based on our current thinking.

Chairman NUNN. We are going to have to do some educated guessing about force structure by the time we start our subcommittee mark-ups, because it affects not just procurement on these systems. It affects promotion policies; it affects manpower very heavily; it affects readiness very heavily. All of these things are going to turn on force structure.

So we are going to stay in close communication with you, and at least get an idea of where your going-in positions are, if not your coming-out positions. I take it your going-in position is 12 carriers, is that fair?

Secretary CHENEY. My going-in position is 14, Mr. Chairman. That is what we have recommended for 1991. We are not recommending any change from that in 1991. In terms of looking down the road about how many A–12s we are going to need in 1998 or 1999, obviously this gets to be a significant number.

But, again, I would come back and argue, and the committee obviously is free to make any decision they want with respect to carriers in 1991. I think we are already taking down the force structure enough in 1991. Certainly we did enough to meet the bogey the President asked us to meet with respect to his budget that is pending before the committee now. The committee, in its wisdom, may decide they want to take additional big cuts out of the Navy in 1991. I do not think that is warranted, given the current state of affairs.

Again, there has been this ongoing debate and dialogue about how fast we should radically alter our military posture. I think everybody here knows I am an advocate of a fairly gradual approach. We have had 6 months of good news, and that is not sufficient to justify going in and cashing in all the chips.

If you ask me what I think we need in 1991, this is what I think we need. If you are asking me what I think we will need in 1996 or

1997, based upon positive trends continuing, then you get a different set of numbers.

Chairman NUNN. That is what I am asking. It sounded to me as if you were saying your long-range forecast that you are going into the discussions on the POM is 12 carriers. That is what I thought you said.

Secretary CHENEY. No, I said that I reserve the right to come back and advise the committee on that decision after we have made it. I emphasized at the outset—this would be a lot easier, Mr. Chairman, if Senator Warner were not sitting on your left up there. [Laughter.]

Chairman NUNN. If you are going into your discussions with the Navy at 14, you will come out with 16, Mr. Secretary. [Laughter.]

Can we get a reasonable guess on the number of wings you are talking about on the Air Force? You talked about maybe five less wings, is that what you are talking about?

Secretary CHENEY. I think you are talking about at least five less wings, probably. The reduction, my guess is, will probably be greater than that by the time we finish.

Chairman NUNN. What about the major reviews on SDI? Let me just list these off and you can tell when you think you will have those available for us. SDI would be number one. Number two, the Army Light Helicopter program. Number three, the SSN-21 submarine, and then the DDG-51 destroyer. Those are all reviews underway, as I understand it.

Secretary CHENEY. That is correct.

Chairman NUNN. Could you give us a timeframe estimate on each one of those reviews?

Secretary CHENEY. I would be happy to provide that for the record. I know the SDI is close to conclusion, because I have had some briefings that have been developed out of the review as well. I have not yet seen any of the product coming out of the other three.

My guess is we can clearly have statements on SDI to the committee within the next few weeks. On the other systems, we will get that information for you, Mr. Chairman. I am just not personally aware at this point of the target dates on those.

Chairman NUNN. That would be fine; submit it for the record.

[The information follows:]

MAJOR SYSTEM REVIEWS

The results of ongoing reviews of the Army Light Helicopter program, the SSN-21 submarine, and the DDG-51 destroyer are scheduled to be presented to the Secretary of Defense in June 1990. The study of the Strategic Defense Initiative has been presented to the Secretary of Defense, and the Defense Planning and Resources Board will review the SDI program during the fiscal year 1992-1997 program review.

Chairman NUNN. Thank you, Mr. Secretary. My time has expired. Senator Warner.

Senator WARNER. Thank you, Mr. Chairman.

Mr. Secretary, I think, as dramatic as these figures have been, equally dramatic is your explanation now, which I think is very timely, that the 5-year program required by law will just not be submitted to Congress this year as we had hoped, other than just

figures. And that we are likely to get the information that we have been seeking probably in January of next year, with the 6-year program.

So this will require perhaps one of the more unusual procedures between the Secretary and Congress, namely informal consultations here during the course of our mark-up, so that our 1991 budget reflects, as nearly as it can be made to do so, the thinking by the President and yourself and Congress.

Secretary CHENEY. Mr. Chairman and Senator Warner, I believe, and I stand to be corrected on this if it is not correct, we have in fact updated the Five-Year Defense Plan in a manner that is consistent with the statute. It reflects things such as our 1991 submission, and it reflects the defense management review savings. That has been submitted, in terms of the numbers.

The problem is, it is not very meaningful the way the 6-year program is now being put together. Because this is the package that reflects the thinking of the services and the thinking of the Department based upon the emerging new strategic world we are faced with. It reflects the new fiscal guidance that we have been given as we put together the 6-year program.

The old 5-year program was put together with totally different fiscal guidance. It assumed real growth in the out years. It is easy to provide those numbers, and I think they are here, they just do not tell you very much.

And what we have here—I am eager to be forthcoming with the committee.

Senator WARNER. Well, I recognize that.

Secretary CHENEY. I mean I am here today in a unique role. I do not know the last time a Secretary of Defense came up in the middle of a POM process, pulled out a piece of what is being prepared for next January, and said, here, guys, this is what we are thinking about long-term on our aircraft program.

Senator WARNER. Well, I anticipate that you will be doing this again.

Secretary CHENEY. I may if the committee thinks it is worthwhile and we have something.

Senator WARNER. Well, then, in terms of any major readjustment to the sort of baseline figure that the three military departments have had in the past several years, that is likely to be forthcoming in the next POM cycle, not the 1991 budget?

Secretary CHENEY. That is correct.

Senator WARNER. In other words, if you and the President and others are working on a major revision of U.S. strategy, those decisions will be implemented in the 1992 budget cycle, as opposed to the 1991 cycle?

Secretary CHENEY. That is correct for a couple of reasons, Senator. First of all, we have to remember the timeframes here. Most of the work on the budget was done before the Wall came down last fall.

Senator WARNER. I understand that.

Secretary CHENEY. We made adjustments to 1991 on that basis. And I would look at it as a transition budget. It does begin to move us in the direction we think we want to go, in terms of what we shut down, in terms of deactivating divisions, reducing manpower,

et cetera. But the budget that has been prepared, sort of from the ground up, with the new defense planning guidance, with the new strategic assumptions, with the new fiscal guidance, is in fact the one that you will get next January.

Senator WARNER. So the full impact of the change in strategy as dictated by one area of the world, namely Europe, is likely to be felt in 1992 vice 1991?

Secretary CHENEY. Yes, although it is partially reflected in 1991.

Senator WARNER. Turning to the B–2. My calculation is that if we go down to 75, with program costs of $61 billion, that would mean a unit cost of $815 million a piece for those aircraft. Now that is a unit price. What sort of a fly-away cost would you hope to get with a program of 75?

Secretary CHENEY. Well, I can get you that specific number, Senator. The number that I looked at that I think has most relevance is the one I mentioned to Senator Nunn. The decision that Congress makes now with respect to the future of the B–2 program is whether or not to spend $34 billion to deploy those 75 aircraft.

[The information follows:]

B–2

The currently computed unit flyaway cost of a 75 B–2 aircraft buy, using the OSD Major Aircraft Review profile, in then-year dollars is approximately $486 million.

Some $26 billion or $27 billion has already been expended. That is gone. We cannot get it back. We got some benefit from it. We learned a lot about stealth technology. We have one flying. We have 15 or 16 in the pipeline.

But in terms of the decision now, and the dollars that are involved, it is about $34 billion.

Senator WARNER. I understand that. Speaking for myself, I have been a strong supporter of this program, and I will continue to do so. I just have to draw your attention to the considerable dollar value of the unit cost of each aircraft as it comes under that program.

Turning then to the A–12, and I again draw on some knowledge of some 20 years ago when I was in the Department of Defense, the TFX problem. We just made those basic decisions in that timeframe, 1968 through 1970. And it seems to me that the A–12 program lends itself to the same problems we experienced under the TFX. Can you today give us some assurance that these aircraft can provide the military requirements for two military departments, and we will not have a repeat performance of the old TFX?

Secretary CHENEY. Yes, I think I can, Senator. I suppose I could be back up here a couple of years from now explaining the problems we encountered trying to do two things, but the important thing here is, I think everybody has been very sensitive to the problems of the TFX. And we learned a lot from that experience.

So, if you look at the systems here, we have worked the joint requirements process between the Air Force and the Navy I think very successfully. I have spent a lot of time talking with the program managers who are actively involved in it, and the contractors.

In the A-12/ATA area, the overlap is greater because of the nature of the mission than it is with respect to the ATF/NATF. But the figure that I have been given, for example, on the ATF/NATF, is about 60 percent comparability.

Now there are some differences, and part of this gets into a classified area. There is information on these programs that should be provided to the committee in a classified setting, which we will make certain you get before you make your decisions.

But we have in fact been, as the systems were designed, very sensitive to that requirement. It is easier today, I think, with all of our CAD/CAM, computer-assisted design and computer-assisted manufacturing processes, to work some of these problems, do the modeling in advance, and avoid the pitfalls we have had in the past.

We are not trying to cram the same airplane down the throats of two services. They have been actively and intimately involved in developing these aircraft. They are very sensitive to the fact they have different requirements.

But there are a lot of similarities, a lot of things you can do jointly, in terms of engines, avionics, and stealth technology that have relevance for both systems. And that overlap is probably about 60 percent.

Senator WARNER. My time is up. I hope it works, Mr. Secretary. Thank you, Mr. Chairman.

Chairman NUNN. Thank you, Senator Warner. Senator Exon.

Senator EXON. Thank you, Mr. Chairman. Mr. Secretary, thank you very much for being here.

First, in listening to your presentation today and in the other conversations I have had with you and others in the administration, what is the top priority in your judgment for all of our strategic programs? If you have to pick one system as the number one priority which would it be?

Secretary CHENEY. I can see you are going to get me in a lot of trouble, Senator.

Right now, today, if I had to choose just one system I wanted to keep that was absolutely essential to our capabilities, I think I would have to say the Trident. And I would argue that because of the survivability of the system, because we seem to have no problem with the modernization of that system. The D-5 missile is coming along in great shape. It does give us significantly greater capability.

So, if I had to have only one system out there, I think it would probably be the Trident.

I think it is equally important, though, to pursue the Triad, to continue land-based and air-based systems. I guess second, I would probably put the B-2 because of the importance of upgrading, modernizing the air-breathing leg of the Triad. And because, unless we go forward to the B-2, we do not have much by way of modernization of that piece of the system.

Senator EXON. Knowing that we are talking about aircraft here today, but since you mentioned the Trident first—and I would agree with you, I think that is good, sound thinking, and I congratulate you for that—what about stretching out the Trident program? We have, as I understand it, some potential difficulties with regard to the D-5 missile for the Trident submarine that may pre-

vent it from coming along in production as fast as the submarine itself. Are you looking at any possible proposals to stretch out the buys on the Tridents, given the budget difficulties that we face?

Secretary CHENEY. Senator, of course we are getting near the end of the Trident buy now in the sense that I believe, the money for the 18th Trident is in the 1990–1991 budget, and we probably will not build more than a maximum of 20 or 21, given the current outline of the pending START agreement. That will depend in part upon whether or not we get an offset of two or three that we can have in the fleet, but we do not have to count, they are not countable against the START limits. It is conceivable. You might save some money on some kind of a 1 year slip in here.

My instinct has been, up till now, to move forward with the program and wrap it up as quickly as possible. The missile problem is now solved. It is working beautifully. It is extremely accurate, and all of that is in great shape. There are some other problems that do not relate specifically to the missile or to the submarine that we can talk about in a classified session. But I think—I would not say to the committee that there is no possibility that you cannot slip a Trident a year, but we have not recommended that.

Senator EXON. Following up on Senator Warner's question in regard to the numbers of fly-away costs on the 75 B–2 planes, would you also be kind enough to supply for the record what the fly-away costs would be on 15 of the B–2s. There is significant rhetoric coming out of very learned people in the House of Representatives that say they have 200 votes to cancel the program at 15. I think it would be helpful if we had fly-away costs on 15, as well as 75, if you could supply that for the record.

Secretary CHENEY. I will be happy to supply that, Senator.

[The information follows:]

FLYAWAY COSTS

The Average Unit Flyaway Cost for 15 aircraft is $951 million and the Total Program Acquisition Unit Cost is $2.25 billion. The Average Unit Flyaway Cost for 75 aircraft is $486.7 million and the Total Program Acquisition Unit Cost is $815 million.

Senator EXON. Let us talk about some of the other problems that we have today. I assume that you are aware, Mr. Secretary, that there is significant construction activity today with regard to B–2 hangars at Whiteman Air Force Base. Twelve of those hangars are either built or under construction at Whiteman Air Force Base.

Given the fact that you have submitted today that you are going to go down to a recommendation of two, that would indicate that we are building more hangars than we are going to build B–2 aircraft, have you looked at the possibility of putting a stop on that massive construction undertaking at Whiteman Air Force Base?

Secretary CHENEY. I have not, Senator, but I would be happy to take a look at it. In general, I am sure the services POM submissions are looking at military construction projects along with everything else, based, in part upon their new planning with respect to force structure, too.

So, we have had a freeze, a moratorium, on all new military construction contracts so far this year. That comes off in a few days. Some of those freezes will continue based upon the kinds of recom-

mendations they plan to make. I am not familiar with the specific details of the program at Whiteman, but I would be happy to get into it.

Senator EXON. I hope you will take a look at it because there is a lot of dirt moving and a lot of steel being erected down there as a result of previous authorizations. There could be some savings in limiting the B-2 hangar construction.

The last time you were before the committee, we had some discussions as to whether or not there was indeed a need for about $4 million per hangar for each one of the B-2s. It was 132; now it is down to 75. Do you have anymore information for us today as to whether or not you have been able to confirm the need that the Air Force still maintains that they need one hangar for every B-2?

Secretary CHENEY. Well, as a general proposition, it is my understanding they do need the hangars for the aircraft, basically to protect and maintain them. Given the fact that some of the B-52s we have had have been around for 40 years, we never thought we were going to need them that long—I guess if we had, we would have taken better care of them—there is a desire to build hangars to provide shelter and so forth for the B-2s. I think that is prudent, given the investment that we have.

It is like, if you went out and bought a $50,000 Mercedes, you would probably want a garage to put it in. If we are going to buy a $500 million or $600 million airplane, we probably should have a hangar to put it in.

Senator EXON. Well, I just tell you that 3 days after you testified in similar fashion the last time you were before the committee, the manufacturer came in to see me and said that the information provided to you was totally inaccurate. The B-2 was fully capable of sitting out in the hot desert sun or the cold temperatures. The skin was the best skin we have ever put on an aircraft, that certainly this system was not so fragile that it needed special treatment.

They conceded that maybe for a long period of time you might want to have a garage for each one of these aircraft. I just suggest that private business like United Airlines does not have a hangar for each operating plane in their fleet. I think we have still gone overboard, and I am going to keep suggesting that we take a look at that.

My time is up. Thank you, very much.

Secretary CHENEY. Okay, Senator.

Senator Exon [presiding]. Senator Wilson would be next.

Senator WILSON. Thank you, Mr. Chairman.

Secretary Cheney, first of all, I congratulate you on what I think has been a very impressive performance, even though I cannot tell you I have enjoyed it. It has been a long afternoon already.

Let me get to some of the specific points in your planned reductions in various programs. There is a concern that has less to do with the total number of reductions in program than, at least from my stand point, a concern about the rate at which you intend to proceed. Going to the B-2, what impact is there on unit cost as we drop from five to two in the first year?

Secretary CHENEY. Well, I am not sure how you would measure it just the first year. I mean, you are still going to be spending a fair amount of money on the B-2. Some of that is R&D money, some is

long-lead procurement money. I am not sure how you measure it for just 1 year.

The fact is, if you reduce the buy, you are going to increase the unit cost. That is absolutely true. There is no way around that.

Senator WILSON. Well, that is my point. I understand there are some costs and that there has been an enormous R&D investment made, and that the reduction in the total number down to 75 from 132 reflects that if the savings is just $10 billion. But your rate, it seems to me is likely—what I am really asking you is if you are reducing it to just two a year, is that not going to result in an even smaller savings?

Secretary CHENEY. No. It will not be just two a year over any period of time. Originally, there had been a profile, when you were going to go for 132 aircraft that you would tool up and gear up to produce up to 24 aircraft in 1 year. That would be your maximum peak production. What we are saying is we are going to change that slope. We are going to go to a peak of 12, and in doing that we can build up more slowly. That has a couple of benefits. It gives us more testing time before we have more aircraft actually procured. Instead of buying five aircraft in 1991, which Congress had approved long-lead items on last fall, we will buy two in 1991 and then up to, I believe it ramps up to five the next year.

Senator WILSON. And you have a similar plan with respect to the C–17?

Secretary CHENEY. Yes, but it does not change that much. We do in fact reduce the buy in fiscal year 1991, but the C–17 program is basically going forward, except that we will buy fewer.

We have rate changes, too, as well in terms of the number that we produce on the C–17, in terms of the maximum number that we would produce in a given year.

Senator WILSON. No, I understand that. Incidentally, I think that, even though you are reducing it from 210 to 120, your comments about the different capability that it brings is not only accurate, it is one you will find, and probably have found if you have looked back through prior testimony, echoed in the testimony of almost every commander who has come before us from theater operations commanders and definitely the people who have been involved with airlift.

Let me ask you whether or not you possess some confidence that we are going to have the commonality on the A–12 that had been hoped for in an earlier combined operation program called the TFX, which did not turn out too well. I gather that you do.

Secretary CHENEY. Well, I was not around, at least not in my current position, when they did the TFX, but it does come up repeatedly because there are still some folks around who remember that. I think we are partly responding to guidance from Congress. I mean, a number of members of Congress have leaned very hard on the notion that we wanted to the maximum extent possible, to the extent it made sense, to the extent it was reasonable, not to have the services taking off in totally different directions, but rather have them share the development cost. We have done that and I think we have sufficiently taken into account the difference in the requirements of the services so that that is built into the system.

I think, Senator, we are all right in that regard, but I do not believe you will find, at least I have not yet found, a feeling on the part of the services that they have had these programs shoved down their throats and they would rather not have them, or they would rather do it in some other fashion. They have been an integral part of actually designing the requirement and building the program.

Senator WILSON. Mr. Secretary, do you anticipate that the 2-year development slide which you have proposed for the ATF is going to, in any way, delay the completion of the demonstration/evaluation phase that is currently scheduled for June of next year?

Secretary CHENEY. I would hope not. I have visited with the members of both teams. Of course, what we have with the ATF are these two teams of contractors. We have the F–22, which is the Lockheed Aircraft and has three companies with it: Boeing, Lockheed and I believe General Dynamics. The other one is the Northrop-McDonnell team. They both have built two prototypes: one prototype for the engines being produced by Pratt-Whitney, one prototype for the engine produced by GE. So, in effect, you have four aircraft, two produced by each team.

Both of those teams have urged me in the strongest possible terms that we downselect, as quickly as possible, to get one or the other out of the fix they are now in. The way this contract was developed, they spent an awful lot of their own money up front at the direction of the Government. Both teams have expended, I think, over $1 billion of their own money in developing this capability. So they are eager to have us downselect and decide which one we are going to go with and then let that team go forward, so the others can quit losing money. We want to do that as quickly as we can, consistent with management of a good program, and my hope would be that we will be able to do that.

These prototypes will begin flying later this summer. So we will actually have some hands-on experience fairly soon with respect to this aircraft.

Senator WILSON. My time has just about expired, but one thing that I would like to get, if only for the record, is some greater detail in terms of the factors that went into the decision that relate to cutting the C–17 down to 120. I understand that the basic considerations are financial, but they obviously, I think in that program even more than in some of the others, have to be connected very intimately to your suppositions about force strength.

Secretary CHENEY. Senator, we will be happy to provide more detail. In a quick sense, 210 aircraft was associated with a 66 million ton-miles per day requirement that was in turn associated with our obligations to reinforce Europe on short notice, short warning, attack.

Now, with the changes in Europe, basically what we are suggesting is that we do not need to go to 66 million ton-miles per day, we can keep it at about 48 million ton-miles per day.

That 48 million is composed of some 16 million ton-miles per day that comes out of the civil reserve air fleet. Those are the commercial airliners the President can call up in an emergency. The remainder, 32 million, is what we have on a day-to-day basis that is Air Force lift capability.

What we are proposing is to buy C–17s in sufficient number and at a rate that will let us maintain the capability that we have today, and not ramp up to the 66 million originally planned. Primarily because of the changes in Europe.

Senator WILSON. Thank you.

Chairman NUNN [presiding]. Thank you, Senator Wilson. Senator Glenn.

Senator GLENN. Thank you, Mr. Chairman.

I had some of the same questions on the C–17. It seems to me that whatever we do, whatever kind of threat that we are gearing up for, whether it is a Soviet resurgence, or whether it is some remote operating area of the world, that, along with the fact that we are going to undoubtedly, at the finish of our total force policy review, put more functions in the Reserves. I would not be at all surprised to see that happen, which means a more mobilization problem, perhaps, as something would gear up toward war. So I too question the cutting back on the C–17.

You have it all outlined as to what would be required to get back to Europe and use the Reserve fleet, and that all figures into this, I guess. Is that correct?

Secretary CHENEY. That is correct. Those were the assumptions we used. Basically, it was saying we would try to maintain current capability instead of expand it.

Senator GLENN. Did you look again at the Osprey, the V–22, in this particular study?

Secretary CHENEY. No, Senator. I had enough trouble with what I had here. [Laughter.]

Senator GLENN. That is one that some of us here want to revisit one of these days again. Not just because of the Marine Corps aspect of it, because I think that was a very narrow role assigned to it last year. But anytime we have, in effect, a helicopter capability that can go twice as far, twice as fast, and carry a third more payload and in a time when we want more mobility around the world and you can fly them to the theater even, it is just something that, after 10 years of support from over here, is hard to give up on. Not just the Marine ship to shore. That is just the first demonstration project for it. But if you think of every single feature a helicopter will perform, civilian or military, and we are starting out now with that kind of a capability.

And the shooting it down—we know the Japanese have already been down to negotiate at Fort Worth. I already told you about that. So I think this is a classic, almost like our television sets and computers and a lot of things we have seen go to the other foreign places, and we will buy them back 5 years from now at quite a premium after we did all this work developing them. So the short pitch, we will get into that later.

Secretary CHENEY. Senator, I am not unsympathetic. My problem, as I indicated before, is price. Or cost. How do we pay for it. I noticed yesterday they landed one out here in front of the Capitol building.

Senator GLENN. That was a V–15, a two-thirds scale model.

Secretary CHENEY. I was curious, how we were going to get a B–2 to fit out there in that parking lot. [Laughter.]

Senator GLENN. Well, we will never see it flying in. [Laughter.]

The unclassified DOD weapon system guide for 1991 describes the advance cruise missile as follows: "The ACM will allow SAC bombers to cover the entire Soviet Union from launch points beyond the range of far forward defense. Its low observable design and train following capability ensures high probability of defense penetration. The highly accurate navigation system provides hard target kill capability."

General Chain was in and testified before us. He described several categories of strategic targets, all of which the advance cruise missile could effectively strike with the possible exception of dispersed mobile targets. With that vehicle, it can be carried on a B–1 or a B–52. Can we consider shifting emphasis from that Triad third leg, from penetrating bombers to stealthy cruise missiles now? Is this a time we should start on that?

Secretary CHENEY. That is one of the questions we looked at during the course of the review, Senator, because a number of people have suggested that there is no need to spend the money for a manned penetrating bomber; let us just simply go with a standoff with cruise missiles. And we are going forward. The program, we have decided, is an important one. It is not as though we are not going to do that. We are going to do that.

The argument that I found persuasive in this regard is that if we have only the cruise missile carrier then the Soviet air defense problem becomes much simpler from their perspective and they are able to focus all their resources on trying to knock down the cruise missile carrier before it launches. You can protect that asset and make it more effective by also forcing the Soviets to have to expend resources with a manned penetrating bomber. It was that synergistic effect of having to deal with the two threats rather than just the one that argues, among other things, for going forward with the manned penetrating bomber, trying to preserve that capability.

Senator GLENN. Cruise missiles of the ranges that we are talking about and looking at now could be launched from quite a ways away, where your vulnerability is far, far reduced. They cannot get out to where these things could be launched. So in effect, it almost looks as though the B–2 would be to attack look/shoot targets or search for mobile targets or assess damage after a nuclear exchange, if we had a working cruise missile that could do much of the same task it is now being designed for.

When will we have the A–12 costs? Let me just give a little background. For a long time the B–2 was kept black and I still remember over in S–407 one day, when we finally had the figures given to us, and I remember Senator Warner—I am sorry he is not here—he walked out shaking his head, could not believe that we had gotten to that point.

Several of us vowed at that time, subject to changing our minds later, I suppose, but vowed we were never again going to vote on any program of which we did not have the costs outlined definitively. I have not decided yet whether I will vote on black programs or not. But my inclination is, as long as they are black and I do not have full accounting on them, I will vote against them until the costs can come out. When will we have the A–12 costs?

Secretary CHENEY. How about right now, Senator?

Senator GLENN. All right, good. That is pretty prompt. [Laughter.]

Secretary CHENEY. As we have gone through the process, I——

Senator GLENN. I saw 12 pencils back there get poised. [Laughter.]

Secretary CHENEY. As we have gone through the process, I have tried to declassify as much as possible for that very reason because I think we should have a free and open debate. And to the extent that there still is classified information the committee would like to have as we go through this, we are obviously happy to provide that too, in a classified setting.

What we are looking at now, and this, again, you have got to make certain assumptions. But the assumptions are as follows: this would be 620 aircraft; production beginning in fiscal year 1990; peak rate, 36 per year; achieved in 1994; total cost would be $51.96 billion, of which we have already spent $5.077 billion.

Senator GLENN. What is that figure out per aircraft?

Secretary CHENEY. I do not have that immediately. I would be happy to get it for you.

[The information follows:]

A-12 COST

The cost estimates for the A-12 presented at the hearing are attached. These preliminary estimates are subject to change during the program and budget review process.

A-12

MISSION: CARRIER-BASED, LONG-RANGE, STEALTHY, ALL-WEATHER ATTACK AIRCRAFT FOR NAVY

NEED: REPLACES AGED A-6E INTRUDER AIRCRAFT

OLD PLAN: BUY 858 AIRCRAFT; PRODUCTION BEGINS FY'90; PEAK RATE 48 PLANES PER YEAR BY FY'95

TOTAL COST: $74.286 BILLION ($5.077 BILLION ALREADY IN)

NEW PLAN: BUY 620 AIRCRAFT; PRODUCTION BEGINS FY'90; PEAK RATE 36 PLANES PER YEAR BY FY'94

TOTAL COST: $57.04 BILLION ($5.077 BILLION ALREADY IN)

FUNDING IN NEAR TERM: BUDGET PROJECTIONS IN BILLIONS OF NOMINAL DOLLARS (NUMBER IN PARENTHESES IS NUMBER OF AIRPLANES BOUGHT EACH YEAR)

	FY'90	FY'91	FY'92	FY'93	FY'94
OLD PLAN	$2.760B (6)	$2.670B (8)	$2.600B (16)	$3.920B (30)	$3.250B (36)
NEW PLAN	$2.760B (6)	$2.670B (8)	$2.600B (16)	$3.920B (30)	$3.050B (36)
SAVINGS	---	---	---	---	$0.200B

COMMENTS:

-- A-6E INTRUDER AIRCRAFT ARE WEARING OUT AND CANNOT BE EXTENDED

-- A-12 PROVIDES CARRIER-MOBILE STRIKING CAPABILITY INDEPENDENT OF FOREIGN BASES TO MEET THE THREATS THE U.S. WILL FACE IN THE FUTURE

Senator GLENN. Somebody have a hot slide rule there, or whatever?

Is that in constant dollars now through this, or is that in current year dollars or what is the basis for that?

Secretary CHENEY. These are current dollars, current year. Then-year dollars in effect, it has inflation into it. This is sticker shock. If you were to do it in constant dollars, it would be less than that.

Senator GLENN. Okay. What does that include? Is that just the aircraft itself or is that maintenance? This is not total life cost. Are there any special hangars required or anything like that that would run the thing up in cost?

Secretary CHENEY. Yes. For the A-12, you have to buy an aircraft carrier, Senator. [Laughter.]

Senator GLENN. We will just not go down to 12, that is all.

My time is up, Mr. Chairman.

Chairman NUNN. Senator Gorton.

Senator GORTON. Mr. Secretary, as I do my arithmetic here, you will be reducing your recommended B-2 buy by 43 percent, and you will be saving 19 percent of your originally estimated cost. Is that a combination——

Secretary CHENEY. For everything, all the programs?

Senator GORTON. No, this is B-2. One hundred and thirty two down to 75 is roughly 43 percent. And $75 billion to $61 billion turns out to be about 19 percent.

Is that good defense and fiscal policy?

Secretary CHENEY. Well, my preference, originally, Senator, was to buy the full 132. We think we can come off that number. We think it is necessary from the standpoint of the fiscal situation that we are faced with and the general willingness of Congress to go forward with a responsible program. I would prefer not to do that. I would prefer, as I mentioned at the outset, to be able to drive down the unit cost.

But given the overall cost of the program, given that we have already spent $26-$27 billion on this program, then the issue becomes one of what can you get for the investment you have already made, and what is affordable, given the fiscal situation we are looking at.

I think the relevant number in terms of thinking about the cost is what you pay from this day forward, because that is what you can influence by your decision and what you buy for that, and what you get if you stop today is some 15 or 16 aircraft. If you spend the $34 billion—that is the cost you have to go, you end up with 75 aircraft. You can deploy and use 75; you really cannot do much with 15.

Senator GORTON. Are you not also substantially driving up the unit cost by a recommendation to go from five to two for fiscal year 1991 and to no more than 12 per year thereafter? The chart you had up here a few minutes ago actually shows that it will now take you longer to build fewer.

Secretary CHENEY. That is right.

Senator GORTON. How much of this remaining $61 billion cost could you have saved had you gone at the same pace, even though you stopped at 75?

Secretary CHENEY. Well again, Senator, my problem is trying to fit a program into a shrinking budget. It would be nice if I could just run all of the production lines out there flat open until I have as many as we have agreed we need, and that will be the most efficient way to go. We do not have that luxury anymore.

Senator GORTON. Well, I understand the rationale, but can you tell me how much of this $61 billion it is going to cost you is solely attributable to slowing down the production rate this dramatically?

Secretary CHENEY. I guess I am not sure. We can try to do the analysis for you and crunch the numbers for you. I will be happy to try to provide that for the record if we could.

[The information follows:]

SLOWING DOWN PRODUCTION RATE

The revised total acquisition cost for the B-2 program is a composite of a variety of factors: the amortization of tooling and test equipment procurement over a reduced aircraft buy; increased overhead costs due to a reduction to annual business base; and, loss of manufacturing efficiencies due to the decreased production rate. It is a very difficult task to isolate the cost impact of a slowed production rate. This information will not be available until negotiations with the contractor for the restructured program have been completed.

The fact is costs are costs. You have so much you have already spent that is already invested in the program. And you will end up, depending upon how you compute that and whether or not you include those costs, whether or not you include life cycle costs—there are different ways to compute costs in terms of trying to assess the total cost. What I can say to the committee is to acquire 75 aircraft, it is going to cost about $34 billion from this point forward.

Senator GORTON. What does 75 B-2s as against 132 do with respect to START talks or nuclear disarmament and bomber counts and the like?

Secretary CHENEY. Well, it takes out of the force the weapons that would have been carried by those extra 57 aircraft that you are now not going to buy.

The START discount rule that allows us to count a bomber loaded with weapons as just one under the overall ceiling, is not as valuable, if you have 75 penetrating bombers, as it would be if you had 132——

Senator GORTON. Does that mean that you will recommend that we ask for even lower limits both on ourselves and the Soviet Union, or alternatively will you recommend ultimately building more missiles or some other type missile?

Secretary CHENEY. No, Senator. It means we can do the job with 75. That gives us two deployable wings of aircraft. I think that achieves our strategic objective in terms of stressing Soviet air defenses, maintains the modernization of the air breathing leg of the Triad. For that reason, I would go forward with it.

I do not have any intention to come back and ask for more bombers or for more missiles in lieu of this. I mean, even after we deploy 75 bombers, we still have a certain number of Tridents in the force, we still have a certain number of ICBMs. We are still negotiating with the Soviets on those. But, I do not plan to come back and try to fill the gap by asking for more missiles. I think we are going to be in a position, assuming we get a START agreement, where we are in fact, going to be reducing some of the forces that are currently deployed.

Senator GORTON. Thank you, Mr. Secretary.

Thank you, Mr. Chairman.

Chairman NUNN. Thank you, Senator Gorton. Senator Shelby.

Senator SHELBY. Thank you, Mr. Chairman. Mr. Secretary, you mentioned earlier that your top priority, strategically speaking, was the Trident with the D–5. Your second one was the B–2. Where does the MX stand in your priorities?

Secretary CHENEY. Right up there, just slightly behind the Trident and the B–2.

Senator SHELBY. Slightly. Number three, but right near to number one. Is that right?

Secretary CHENEY. There is not much difference between number one and number three, Senator.

Senator SHELBY. How much difference? A shade of a difference? [Laughter.]

An inch, a mile?

Chairman NUNN. Just enough to squeeze the Midgetman in between. [Laughter.]

Secretary CHENEY. I think, you know, in terms of arguing our overall strategic posture, it is important for us to continue our modernization program. The Soviets have not terminated their modernization programs.

Senator SHELBY. Let us talk about that just a minute. As we all know, and as you have said before this committee, the Soviets already have on rail, heavy missiles. Do they not?

Secretary CHENEY. Yes, they are deploying the SS–24 in a railmobile, as well as a silo-based mode.

Senator SHELBY. Right. And we are still talking about it.

Secretary CHENEY. That is correct. We have the Peacekeeper on silos, but not on rail yet.

Senator SHELBY. As a missile, in your judgment, how good a missile is the MX?

Secretary CHENEY. It is a very good missile. It is our best land-based missile. It is, in terms of its capabilities, its accuracy, et cetera, clearly the finest land-based missile in the inventory today.

Senator SHELBY. Has your priority slipped in the last 6 months from three to one or from one to three, or do you have trouble mixing it up?

Secretary CHENEY. No.

Senator SHELBY. I ask you that for the obvious reason. Go ahead.

Secretary CHENEY. I am a fan of the Peacekeeper MX. I have supported it over the years. I still support it. I recommended it to the President last year as part of our modernization program.

But, if I was asked by Senator Exon about my number one strategic priority, I come back again to the Trident because of, among other things, its survivability. And it now, increasingly, has the capacity with the D–5 missile to rival any of our land-based missiles in terms of its hard target accuracy.

So, if you told me tomorrow, you get one strategic system, what is it going to be, I would have to say the Trident.

Senator SHELBY. But the B–2 and the MX would be right there with it?

Secretary CHENEY. Just right behind. Just a little bit behind.

Senator SHELBY. In your testimony you would not want to imply today that the MX with the rail garrison proposal is not important to you and the President.

Secretary CHENEY. That is correct.

Senator SHELBY. Is this a situation that could be bargained away at the START talks?

Secretary CHENEY. I would never want to think of the Peacekeeper Rail Garrison as a bargaining chip, Senator.

Senator SHELBY. Thank you.

Mr. Secretary, on another deal, you mentioned SDI, or it was mentioned here. I know you have got studies coming; you are not ready for, I guess, a definitive statement, a proposal at this time.

But when we are dealing with R&D down the road, as far as strategic weapons, is not SDI one of the programs that is important as far as R&D toward a strategic defense?

Secretary CHENEY. It is. Senator, SDI has been a high priority for me. I am confident it will continue to be a high priority. The President believes very strongly in it, and it has been an important part of his recommendations to Congress.

I really think the arguments continue for SDI. I do not see anything that has changed in the international environment that makes SDI less important. I would argue that the changes we see out there make it more important. That within that broad construct of SDI, all those programs that are within that framework, lies the only potential we have to deal with the kind of emerging Third World ballistic missile threat now that people increasingly have focused on.

So, I really do believe it is important for us to continue to pursue that. And it is a relatively small part of the budget compared to other things we spend money on.

Senator SHELBY. Mr. Secretary, when will the program review be ready for the Army's proposals? I know we are talking about other weapons, now, such as the light helicopter and other things.

Secretary CHENEY. I do not have a specific date on that Senator. I will be happy to provide it for the committee. I have not received any information yet from the review.

[The information follows:]

The work of the review group for the Advanced Rotary Wing Review is expected to be completed by May 30, 1990.

Senator SHELBY. But you are reviewing so many things. Right?

Secretary CHENEY. Right. Well, we still have the LHX, the SSN-21 and the DDG-51 out there that are currently under review.

Senator SHELBY. Okay. Thank you, Mr. Chairman.

Chairman NUNN. Thank you, Senator Shelby. I believe that Senator Lott is next.

Senator LOTT. Thank you, Mr. Chairman. Perhaps I missed it, but what do you estimate would be the aggregate savings of this package that you have before us today? Now, this is over a 6-year period. Is that right?

Secretary CHENEY. Yes. Let me give you two numbers.

Senator LOTT. All right.

Secretary CHENEY. Or three numbers. In terms of the first year, in terms of fiscal year 1991, these recommendations would cut about $2.4 billion out of the 1991 BA.

In terms of the remainder of the 5-year defense program we are now in—that is out through 1994, total savings is about $16.8 billion. If you stretch that out through 1997—that is over the 6-year

defense program that we are now building, this analysis is really a part of, it works out to somewhere between $34 billion and $35 billion. That is cumulative. That is the total. That is not $16 billion plus $35 billion, but that is the total.

Senator LOTT. With regard to your discussion about the A-12, and the possibility of the A-6, trying to extend its service life, you said that reopening the A-6 production line is not prudent. Elaborate on that just a little bit. I mean, just the cost of getting it going again?

Secretary CHENEY. The A-6?

Senator LOTT. Yes.

Secretary CHENEY. We looked at the A-6, of course, because it is currently in the fleet. We have had a lot of experience with it, we have operated it going back to Vietnam.

Senator LOTT. That is why I——

Secretary CHENEY. But it turns out that from everything I can tell, and from having talked with our folks on carriers, and A-6 pilots and people who operate and maintain the aircraft, while it has done the job we asked it to do, it is in fact a very old aircraft. It has 1950s technology in it, basically.

Senator LOTT. What you are really saying is we need and we want the A-12. You really do not want to start up the A-6 production because you do not want——

Secretary CHENEY. And when you have an A-6, you do not have anything like the capability you get with the A-12. The A-12 is stealthy, the A-6 is not. The A-12 has great range, the A-6 does not have as much range. The A-6 is extremely difficult to maintain and operate. It takes a lot of time and a lot of manpower. The A-12 will be much more self-contained, fewer personnel required to maintain it, fewer spare parts.

Senator LOTT. Lets talk about the C-12 and C-17. We talk about the newly emerging strategic environment and the changes that are under way, and as a matter of fact, we talk about the fact that we are going to be more dependent on airlift and sealift capability. Yet I do not see anything coming out of the Pentagon that indicates that we are doing a whole heck of a lot about it with regard to sealift. Now you are talking about cutting the numbers on the C-17. How do you justify that?

Secretary CHENEY. The numbers, Senator, we came up with originally—the original 210 figure was based upon what was defined as the requirement, or the goal, to be able to move 66 million ton-miles per day. That in turn was devised or developed as a result of our commitments in Europe, the requirement that we have with our NATO allies to have 10 divisions in Europe within 10 days of mobilization, but we have never been able to do that. We have about 4⅔ over there. We were going to move another 5-plus divisions. A lot of that would have been done by air. The C-17 was designed with a view in mind and authorized originally to help fill that particular niche, that mission, to expand our lift capability and to be able to do that job, up to 66 million ton-miles per day.

At present, we have about 48 million ton-miles per day and that includes some 16 million that comes out of the Civil Reserve Airfleet. Those are commercial aircraft the President can call up and

put into service to move cargo and people. The bulk of this capability is passenger airlift.

So that leaves you with about 32 million ton-miles per day which is our current organic airlift capability. If I had to order up all of our military strategic lift assets today, we could lift about 32 million ton-miles per day. What we are suggesting we do with the C–17 program is to reshape it to reflect the need to maintain that 32 million ton-miles per day of sort of captive U.S. Air Force lift capacity, and not expand it to that ultimate objective by adding some 18 million ton-miles per day, over and above what we currently have, to 66 million ton-miles. That is the rationale.

Senator LOTT. I know it has been a long day, so I will not prolong this too much, but you know, Mr. Secretary, I just have to wonder how much in these recommendations and others I see floating around the Pentagon are you trying to anticipate what Congress may do, and therefore, you are changing your recommendations.

If you are trying to anticipate Congress, I would suggest that is very dangerous business. There is no way that you can get ahead of us when it comes to changing and cutting defense. You know that.

I just do not see, what is different on the B–2 now than 3 months ago that we had to have 132 3 months ago, and all of a sudden, 75 will do the job. Is it because you think Congress is going to do it anyway? If we can go from 132 to 75, I might start saying, hey, well, maybe 16 is fine.

How do you respond to that, my friend?

Secretary CHENEY. Well, I would respond with respect to the C–17 that you are going to have smaller forces in Europe, you are going to have a smaller threat in Europe. The Warsaw Pact is increasingly a relic of history. The Poles today are not likely, under their current government, to join in a Warsaw Pact Soviet attack against NATO, and the whole situation has changed.

I think in terms of planning the kind of time frame that we are talking about now for the C–17, you are looking at a situation, assuming current trends continue——

Senator LOTT. I accept that argument on the C–17.

Secretary CHENEY. Okay—that the Soviets will be back behind the Polish border and you will have months and months of warning, not 14 days, which is our old planning assumptions. Therefore, I think you can change that.

The B–2 is driven by budget considerations. It is also driven by things such as the Warsaw Pact. The fact of the matter is that—this gets into a classified area, so I want to be careful about how much detail I get into here—but the Warsaw Pact is no longer a target rich-environment from the standpoint of our SIOP, if I can put it into those terms.

Senator LOTT. You have been hanging around the Pentagon to much lately. You are picking up their lingo. [Laughter.]

Secretary CHENEY. That is right. So you can begin to change your planning assumptions about how many systems you are going to need to deliver weapons to targets because the target base is going to be smaller. You have a significant reduction in the number of Soviet——

Senator LOTT. That was our target base for the B–2?

Secretary CHENEY. Well, that is part of it. It is part of why you can contemplate going down in terms of the total number of weapons you have to deliver on target. We also hope to sign the START agreement, which will eliminate some additional targets, as well; some of their strategic systems.

So we think it is a prudent course. I am also, though I am the first to admit to my good friend, the former Republican Whip of the House that a lot of this is driven by budget considerations as well. I am trying to make some bogeys that I have given out there in the out years that are very stringent.

And the change—I do not think people understand the scale of change. I am sure the members of the committee will, but if you go from a budget planning assumption that has real growth in the out years—it is always get 1, 2, 3 percent more money after inflation—which has always been our planning assumption. We have slipped it year by year, but we have always assumed there was going to be real growth down there to deal with it.

Now we are dealing with this. We are assuming real declines in the out years. And that wedge between the up line and the down line is enormous, hundreds of billions of dollars. And to make those new bogeys the President has given me, I have to make these kinds of recommendations. If Congress cuts us even deeper, if we take $24 billion, as some have suggested, for example, out of the fiscal year 1991 budget authority account for defense, you have not seen anything yet. I am going to be back here with some cuts that will knock your socks off.

Senator LOTT. Could you draw the line on what you think we need, and if we want to go below that, let us bear the burden.

Thank you, Mr. Secretary. Thank you, Mr. Chairman.

Chairman NUNN. Thank you, Senator Lott.

Mr. Secretary, on the A–6 argument, the audience will remember your cogent presentation of why that was a good idea not to have that program because your predecessor-once-removed argued very vehemently against us killing that program, as did the Navy. But your arguments, I think, are the correct ones. I think we did the right thing 3 years ago.

I believe Senator Levin is next or Senator Dixon. Senator Dixon is next.

Senator DIXON. I think I am technically, Mr. Chairman. I ducked out for a few minutes, and I thank my colleague for——

Chairman NUNN. We are pretty technical around here, so you go right ahead.

Senator DIXON. I know you are a technical person. Mr. Secretary——[Laughter.]

Chairman NUNN. I take that as a compliment. [Laughter.]

Senator DIXON. Mr. Secretary, I ducked out for a few minutes to go to a Banking Committee meeting where we are finally agreeing on a housing bill, and I understand in my absence, at least three Senators, Senators Wilson, Glenn, and my good friend from Mississippi, Senator Lott, have talked to you about the C–17, so I apologize for going over ground that has been heavily travelled already, but I thought in your discussion about the C–17 you made about the most persuasive case that can possibly be made for avoiding any significant cuts in the C–17 program.

Everybody knows we are going to have substantial force level reductions. Certainly this Senator has called for that, as my friend, the occupant of the witness chair, knows. Everybody knows we are going to have substantial closing of foreign bases. I have advocated that strenuously, even during the lengthy debate about base closing. And I just think all that argues for strong sealift and airlift capabilities.

Taking into account the reduced threat in Europe, the very thing you said about Panama, and the fact that clearly there are always going to be the possibilities of Grenadas and Panamas and other operations like that, causes me to once again suggest to you that, in the view of at least this Senator, we ought to carefully evaluate whether we really want to make a reduction that significant in a program that everybody tells me is tremendously important to good, competent airlift capability. I just would like to ask you to comment one more time to elucidate that for this Senator.

Secretary CHENEY. Senator, you will note when I came up with the first revision to the budget, in the spring of 1989, I did not touch the C–17 because I shared your basic view about its importance. But that was before we saw the fundamental changes that have occurred in Europe over the course of the last 6 to 8 months. It was before the demise of the Warsaw Pact. Again, this is one of those areas where our planning has been driven very much by that scenario for a major land war in Europe.

This is a difficult choice. Congress, reasonable men, could very easily come to a different conclusion that maybe we should give more protection to the C–17 fleet and give up something else.

But, given the kinds of situations we have seen, the key for us is to maintain our airlift capability where it is today, rather than to ramp up as had been planned to that 66 million ton-mile figure. At the same time to build into the force the new capability that the C–17 represents, but that we can safely plan now to cut back on the buy.

Now, the reality is, this decision may ultimately get made long after you and I are gone, when the line is open and we have procured over a period of time, depending upon your rate on the C–17. For example, under the new plan, we would buy the last 24 in 1997. It may well be that Congress is going to sit down before that date and say look, this is a great aircraft. We need more of them. We want to expand our capabilities and decide to keep the production line open.

So, what I have tried to give you is a notion of what the total cost of the program will be in the out years, because members are legitimately interested in what happens long term.

If I had to make the choice today in terms of that call, I would say we can get by with 120. Congress may decide the world circumstances have changed, whatever, and we need 210.

Senator DIXON. Well then, let me talk about short term. Why the reduction from six to two in fiscal year 1991?

Secretary CHENEY. That slows down the ramp up in terms of production. If you go back and look at the old plan, for example, we went from six in 1991 to 12 in 1992 to 24 in 1993, a fairly rapid run up in production. Under the new plan, we are talking about a slower build up. Two in 1991, six in 1992, 12 in 1993. In other

words, instead of going up sharply with production, we are going to build more gradually.

Senator DIXON. Well, then I would ask you—I do not mean to be argumentative—could you live possibly with a little bit larger beginning on that program because as you have correctly pointed out we are talking about some distance in time before we come to the final conclusion about the gross number. But I just wonder whether we could not, at least as a committee, take a consideration of that into account as we discuss some of these things we are doing next year.

Secretary CHENEY. Certainly. These are recommendations. Congress will ultimately decide.

Senator DIXON. You remain, though, committed to the idea that it is a very competent and useful airlift plane?

Secretary CHENEY. Absolutely. But we have not yet flown the C-17. It is scheduled to fly in June 1991. This is one of those systems where, with a little more time, which is now available to us, we can probably do a better job in the early stages of development.

Congress, last year for example, cut two C-17s out of my request. I asked for six last year, and only got four.

Senator DIXON. Incidently, did we finally resolve some of the questions that had been raised about the C-17 at earlier hearings and so forth? Have all those questions been resolved to your satisfaction?

Secretary CHENEY. John Betti, the Under Secretary for Acquisition, has worked the problem very hard, as has Don Atwood, in terms of looking to make certain that we have the program squeezed down to its essentials—that we know what it is going to cost—that it will work, and we can meet schedule deadlines, and so forth.

But I have been around long enough to be reluctant to make hard-and-fast predictions in that regard with respect to any new program. This is an aircraft that has not yet flown. It has new capabilities on it. I think we have got a pretty good handle on it, but I will have a lot more confidence after we have a few more months under our belt. We have started the test program and so forth.

Senator DIXON. One more question because my time is up. Mr. Secretary, the ATF, when you slip that date to 1996, I presume then you are slipping the initial operating capability as well, and the thought occurs to me that if you are going to terminate the F-15E in 1991, are you not going to have a gap there?

Secretary CHENEY. Of course, the ATF is not intended to replace the E model F-15, but the other model F-15s, the A through D models. It is the air superiority aircraft, whereas the Eagle, the F-15 Eagle is the two-seat, deep interdiction aircraft—you know, "drop bombs on targets" kind of aircraft. They are slightly different systems.

The relevant comparison with the F-15E is the ATA, which is getting slipped, no question about it. It is the one that probably gets slipped further than anything else. And that is based, in part again, upon the changing European environment, where we do see significant changes.

Based upon the fact that the F-15E aircraft is relatively new, we are still producing them. We will have some 200 in inventory, supplemented with continuing capability in the F-111s and the F-117.

Senator DIXON. Thank you.

Mr. Chairman, if I may just indulge myself by making this final remark, and I thank my friend from Michigan for yielding me this time, I——

Chairman NUNN. Technically, Senator Dixon, your time is up. [Laughter.]

Senator DIXON. At the expense of not being too technical, would you leave me the opportunity to simply say that I think this committee and everybody is indebted to the Secretary for doing a first-rate job in very difficult circumstances. I would want to be one of those individuals on this committee who expresses his profound appreciation to the Secretary for good work well done in difficult circumstances.

Secretary CHENEY. Thank you, Senator.

Chairman NUNN. We will allow that in the record and agree with you.

Senator DIXON. That was very untechnical of you, Mr. Chairman, and I thank you.

Chairman NUNN. Senator Cohen.

Senator COHEN. Thank you, Mr. Chairman.

Secretary Cheney, I am sorry I missed much of your original presentation, but does this end the reported or reputed dispute between the Webster-Cheney vision of the changing face of the Soviet Union and Europe?

Secretary CHENEY. Not at all, Senator. The point I tried to make at the outset was I took some delight in watching the Soviet economic experts who were in town last weekend denounce the CIA for having a rosy scenario about how good things are inside the Soviet Union. I said I had the same basic problem myself.

Senator COHEN. We can continue to see that being played out.

Secretary CHENEY. Well, I think Bill and I are good friends, and I think it is basically healthy. There are a wide variety of opinions all over town about what is going to happen inside the Soviet Union, and I might add, the CIA has been very helpful in the studies that led up to these decisions.

Senator COHEN. Mr. Secretary, on page 3 of your statement you indicate that our confidence in the ability of our current bomber forces to complete their mission diminishes greatly toward the turn of the century, and you say this is particularly true should we expect the bomber leg to serve as a fully independent leg of the Triad without defense suppression by other legs.

Does that mean that the existing national security decision directives direct the air breathing leg of the Triad be able to execute this retaliatory strike without defense suppression by ballistic missiles?

Secretary CHENEY. It is not quite that specific, Senator, and to some extent we are getting into a classified area here, too that requires a little caution.

I think what it refers to more than anything else is that as we do our planning, as we think about what we want to build into a system like the manned penetrating bomber, you do so against a

specified threat, and that threat is Soviet fighters and radar systems and surface-to-air missiles. So, when you assess your capacity to penetrate, your capability to penetrate, you do so against that specified threat.

Obviously that threat would be affected if you ultimately had to execute the SIOP by whatever damage had been done to the air defenses as a result of the missiles that arrived earlier.

Senator COHEN. I do not want to get into classified areas either, but in the statement it was rather unclear in terms of whether that is part of our planning process now. And it seems to me it raises questions that we could go into in a closed session.

Also, on page 6, I noticed your statement that the B-2's flexibility makes it the only element of the Triad that has both conventional and nuclear roles. That is a bit overstated, at least in my judgment. You do not mean to say that the B-2 is the only bomber that can carry out both the nuclear and conventional role?

Secretary CHENEY. No sir, Senator. That would be overstated, but that is not the intention of the statement. What we are talking about here, the Triad, the strategic systems, of course, your ballistic missiles and your ballistic missile submarines are devoted to the SIOP and have no conventional capability. It should not be overdone, but one of the arguments that is made for the B-2 is that you could conceivably use it in a conventional mode as well.

Senator COHEN. But, of course, we have B-52s today which operate in a conventional mode. In fact, they are dedicated to conventional missions.

Secretary CHENEY. That is right. But the B-52 was originally designed as a strategic bomber. Now we are using it in a conventional role as well.

Senator COHEN. And the B-1B, of course, carries out both missions, both a nuclear mission as well as a conventional mission.

Secretary CHENEY. It could.

Senator COHEN. As a matter of fact, as I recall, Secretary Weinberger in arguing for the resumption of the B-1B bomber back in the early eighties cited the B-1B as having a better conventional capability than the B-2.

Secretary CHENEY. I am not familiar with that statement.

Senator COHEN. I just wanted to clarify that the B-2 is not the only part of the Triad that could carry out nuclear and conventional missions.

Secretary CHENEY. Well, I would argue the manned bomber is the only leg of the Triad that can carry out conventional bombing missions. But the B-2 probably is not the only bomber. Clearly the B-52 and the B-1B could as well.

Senator COHEN. I just wanted to make that clear for the record. That is all I have.

Secretary CHENEY. Thank you, Senator Cohen.

Senator COHEN. Mr. Secretary, if I could ask one other question.

Secretary CHENEY. Sure.

Senator COHEN. On your statement about the reason for the reduction in the B-2 program, I think you indicated the changing face of Europe and promising trends allow us to make that reduction without excess risk. You did not cite cost as a factor.

Secretary CHENEY. I did, Senator, and certainly would not want to convey to the members of the committee that cost has not been a factor. One of the reasons we are going through this exercise is partly driven by the changing world events. It is partly driven, also, by the fact that people are now eager to harvest as a result of a reduced level of defense spending, and that has resulted in my having to find ways to fit 10 pounds of program into a 6 pound budget.

Chairman NUNN. Thank you, Senator Cohen.

Mr. Secretary, we are going to be looking at trade-offs, existing systems, upgrading existing systems versus new systems, and also in other areas. In this area where you completed your review, where you looked at those trade-offs, like the F-15, F-16 versus the ATF or others in this aircraft review, we would like to have that material for the record.

Secretary CHENEY. Sure.

[The information follows:]

AREAS OF TRADE-OFFS

The slides at attachment 1 show how the Major Aircraft Review (MAR) considered trade-offs, evaluation of existing systems, and upgrade of existing systems versus new systems. In particular, these charts depict an assessment of the effectiveness and performance of ATF alternatives with regard to first-look, first-kill, survivability, maneuverability and firepower, and conclusions.

ASSESSMENT OF ALTERNATIVE ATF EFFECTIVENESS AND PERFORMANCE

Capability: First-look, first-kill vs. SU-27.
[Deleted.]
Capability: First-look, first-kill vs. ASF.
[Deleted.]
Capability: Survivability.
[Deleted.]
Capability: Superior maneuverability/fire power.
[Deleted.]

SHOULD THE NEW AIRCRAFT BE ATF-LIKE?

[Deleted.]
—are necessary to regain decisive air superiority against current threats and to retain an advantage against 2005
—of the alternatives to ATF only SE FX possesses these characteristics
[Deleted.]

Chairman NUNN. So we can take a look at your options. We are going to be asking a lot of questions. I think Senator Levin has got a subcommittee hearing tomorrow. There will be a lot of subcommittee hearings. What we would like to do is design our questions to fit, generally speaking, the approach you have taken rather than asking for a new whole set of information. But if we do not know the approach and the options and the trade-offs, we do not know how to even get that information. So, it would be very helpful to us if you could give us the maximum amount of information possible on the way you looked at this and how you arrived at your decision.

Secretary CHENEY. All right, Mr. Chairman, if I might in that regard. For each system, we developed a fairly elaborate decision flow chart on what the key points were and the key elements that

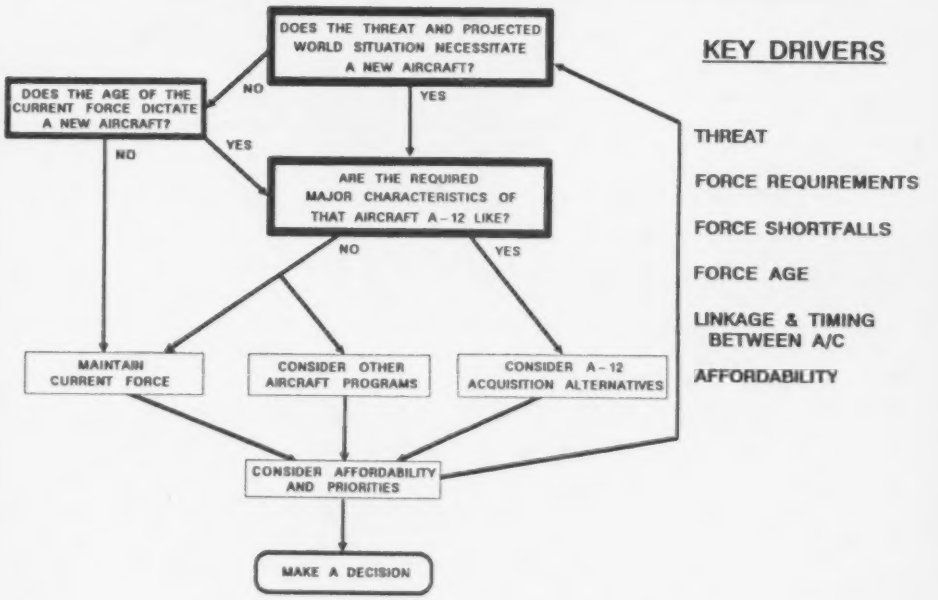
had to be raised. We would be happy to provide that to the committee.

Chairman NUNN. That would be very helpful. I think it will save us from going through some of these things that you have already been through and probably make us much more likely to come to the same conclusions you have.

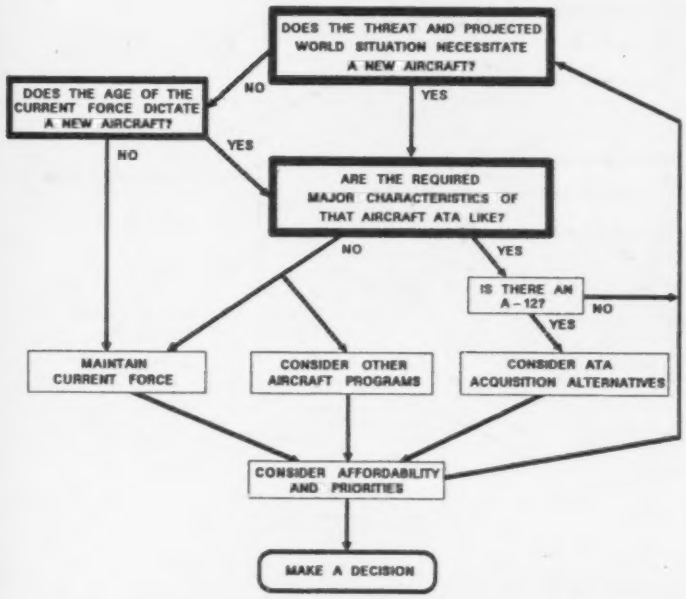
Secretary CHENEY. You may want to hold a session or two with John Betti and the other members of the team who did the detailed review, and they can walk you through the F-18 upgrade we looked at, the Hornet 2000, Super Tomcat 21, the two or three different versions of F-16s. We did do all of this work. It is good work, and I would commend it to the committee. We will be happy to provide it.

[The information follows:]

A-12 DECISION FLOW CHART



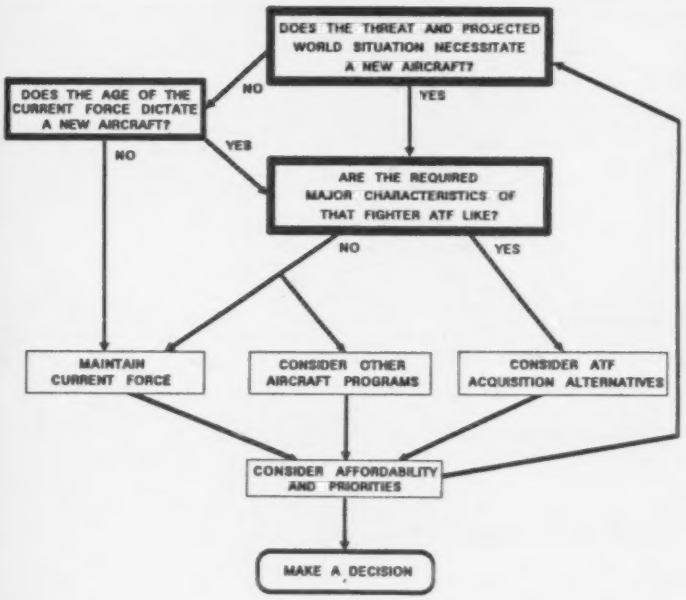
ATA DECISION FLOW CHART



KEY DRIVERS

- THREAT
- FORCE REQUIREMENTS
- FORCE SHORTFALLS
- FORCE AGE
- LINKAGE & TIMING BETWEEN A/C
- AFFORDABILITY

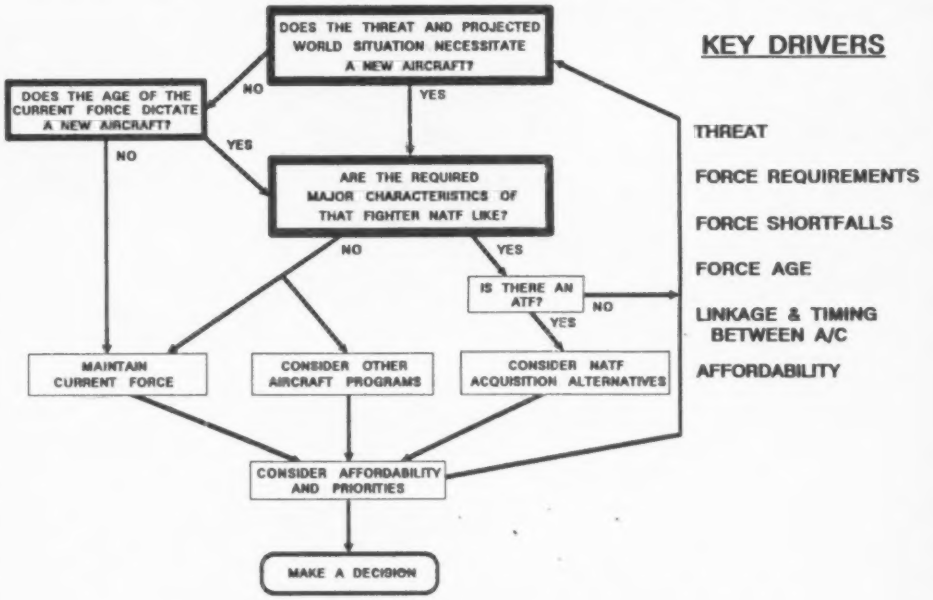
ATF DECISION FLOW CHART


DOES THE THREAT AND PROJECTED WORLD SITUATION NECESSITATE A NEW AIRCRAFT?
NO
YES
DOES THE AGE OF THE CURRENT FORCE DICTATE A NEW AIRCRAFT?
NO
YES
ARE THE REQUIRED MAJOR CHARACTERISTICS OF THAT FIGHTER ATF LIKE?
NO
YES
MAINTAIN CURRENT FORCE
CONSIDER OTHER AIRCRAFT PROGRAMS
CONSIDER ATF ACQUISITION ALTERNATIVES
CONSIDER AFFORDABILITY AND PRIORITIES
MAKE A DECISION

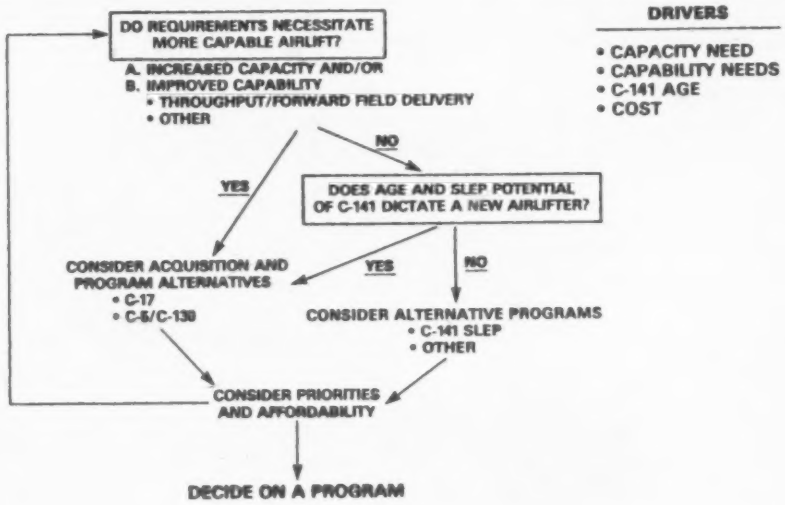
KEY DRIVERS

- THREAT
- FORCE REQUIREMENTS
- FORCE SHORTFALLS
- FORCE AGE
- LINKAGE & TIMING BETWEEN A/C
- AFFORDABILITY

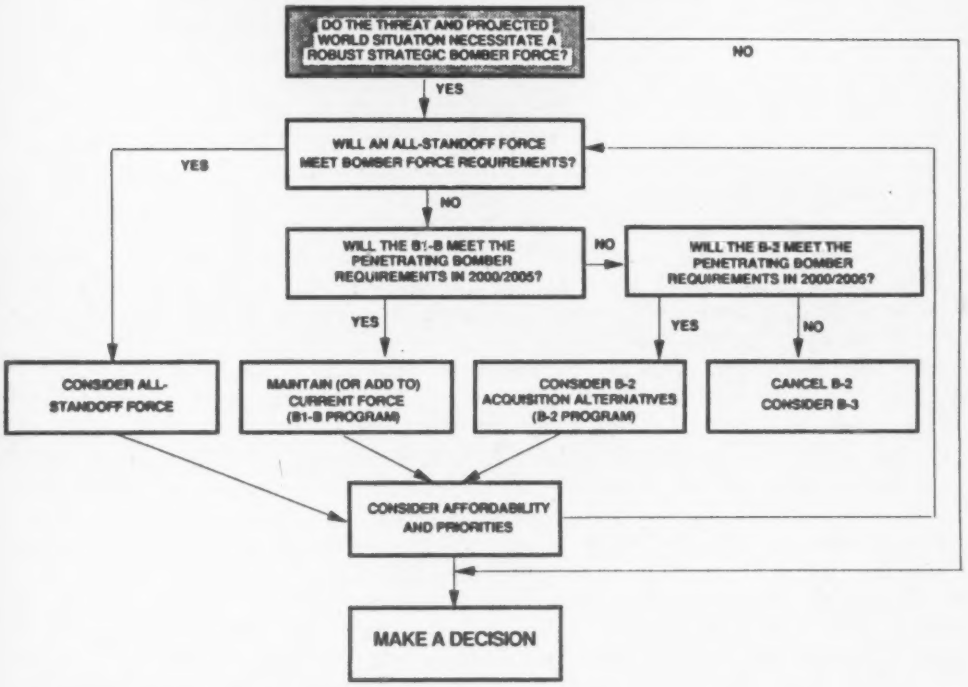
NATF DECISION FLOW CHART



C-17 DECISION FLOW CHART



BOMBER DECISION FLOW CHART


DO THE THREAT AND PROJECTED WORLD SITUATION NECESSITATE A ROBUST STRATEGIC BOMBER FORCE?
NO
YES
WILL AN ALL-STANDOFF FORCE MEET BOMBER FORCE REQUIREMENTS?
YES
NO
WILL THE B1-B MEET THE PENETRATING BOMBER REQUIREMENTS IN 2000/2005?
NO
WILL THE B-2 MEET THE PENETRATING BOMBER REQUIREMENTS IN 2000/2005?
YES
YES
NO
CONSIDER ALL-STANDOFF FORCE
MAINTAIN (OR ADD TO) CURRENT FORCE (B1-B PROGRAM)
CONSIDER B-2 ACQUISITION ALTERNATIVES (B-2 PROGRAM)
CANCEL B-2 CONSIDER B-3
CONSIDER AFFORDABILITY AND PRIORITIES
MAKE A DECISION

Chairman NUNN. Senator Levin.

Senator LEVIN. Thank you, Mr. Chairman. Let me also welcome you, Mr. Secretary, and commend you for your conscientious effort. I join with others in saying that.

First, on the B–2. If you took a survey of the American people—and I have seen these kinds of surveys—I think most Americans have trouble buying even five B–2s at $500 million a copy. What you are suggesting now is that we buy 75 B–2s at something over $800 million a copy. It is an astronomical figure, and I am wondering whether or not this total that you came up with, this 75 B–2s at $61 billion, compared to 132 B–2s at $75 billion, is a negotiated price or is that an estimate on the part of the DOD?

Secretary CHENEY. We have contracts in place for acquisition of about 15 B–2s. But what we have here is clearly outside the plan of those contracts, so this is strictly an estimate.

Senator LEVIN. So no negotiations went into that 75 B–2s at $61 million figure?

Secretary CHENEY. The question is negotiated——

Senator LEVIN. I mean, how solid is that figure because I have to tell you, $800 million a copy raises immense problems for me. If $500 million a copy is swallowing an elephant—not a white elephant—you know, $800 million is like swallowing a B–2, I guess.

How much negotiation went into that figure of $61 billion?

Secretary CHENEY. Senator, if I may describe for a moment the process we have been through here, partly because of the consequences of these decisions for many of the contractors involved, we have been very careful not to be in the business where anybody

had prior knowledge that could create problems in terms of the stock market and so forth. So the process we followed was an elaborate review.

We talked a lot with the various companies that were involved, the program managers, but not about the final decision. They were notified some days ago to be in Washington today, and they were invited in this morning to meet with Don Atwood, the Deputy Secretary, and Don briefed them this morning as I was appearing on the Hill announcing the decision. So they did not have any prior knowledge in advance.

We would clearly want to go back and talk with them in light of this to get the best deal we could. In terms of the number itself, though, it is our best estimate based on several years of experience now with the program, we think this is what it would cost to buy that many aircraft.

Senator LEVIN. One of the reasons that you give for your justification in your reduction is that there are fewer targets now on our list, and you sort of move Eastern Europe for the most part off, or partly off, the target-rich list. I happen to agree with that. But when it came to arguing the MX the other day, what we heard is that we cannot do anything about keeping the MX in silos instead of spending a lot of money to put them on railroad cars because we have a certain number of targets we have to cover there.

Now, of course, you can cover those targets, I believe, as well with MXs in silos as you can on railroad cars. But putting that issue aside for a minute, the target argument was used to justify the MX the other day by a DOD representative, and yet the MX covers fewer targets than do the B-2s which you are eliminating. In other words, those 57 B-2s which you propose to eliminate cover more targets than the 50 MXs that your representatives insisted so strongly on.

Why is it so easy to justify the reduction of the B-2 to a much lower number in terms of not having as many targets given in Eastern Europe, but when that same argument is made for MX, everybody stiffens their back and says no, we have to cover a certain number of targets?

Secretary CHENEY. I guess we have to be careful here to make certain we are still not trying to compare apples and oranges.

The target base affects the total number of weapons you think you need, but when you are dealing with B-2s carrying gravity bombs or SRAM, Short Range Attack Missiles, it is a different proposition than talking about 500 ballistic missile warheads on top of the Peacekeeper. Those 500 ballistic missile warheads get there in about 30 minutes, bombers about 8 hours.

They have different levels of capabilities, so I think you would have to be a little careful here in trying to equate one RV with the other RV. They have a different meaning under arms control arrangements for example. We expect we will have ceilings on ballistic missile warheads that will cut in a different way than would the START agreement with respect to the manned penetrating bomber.

Senator LEVIN. Relative to the MX, you indicated here with a smile, I will put it that way, that you do not think of the MX as a bargaining chip, but the reports were that when President Bush of-

fered the MX in exchange for the SS-24 that you were quoted as being supportive of that offer. Were those quotes accurate—that you supported the offer to bargain away the MX for the SS-24?

Secretary CHENEY. It was correct that I support administration policy, Senator. I always support administration policy. I supported the administration policy in this sense as well.

Senator LEVIN. Does that mean you did support it? I am not sure I understand your answer.

Secretary CHENEY. I am a little bit constrained here because of the extent to which we have public discussions of what obviously are fairly confidential negotiations with the Soviets on sensitive matters, and those discussions are best dealt with on a confidential basis, not out in a public forum. I would be happy to discuss them with members of the committee under a different setting.

I do—in fact have supported the administration's efforts, both with respect to modernizing our strategic forces and with respect to negotiating a new START agreement with the Soviets.

Senator LEVIN. When you say you do not think of the MX as a bargaining chip, does that not vary from the administration policy which was to offer it precisely as a bargaining chip? Is that not a variance?

Secretary CHENEY. No, I do not think that we have ever argued that it was a bargaining chip, and probably the worst thing you could do in terms of having it influence your ability to leverage it would be to identify it as a bargaining chip.

Senator LEVIN. You offered to bargain it away.

Secretary CHENEY. I did not offer to bargain it away.

Senator LEVIN. The administration offered to bargain it away.

Secretary CHENEY. Senator, you asked me whether or not I supported the administration's START position. I do, and I also support the strategic modernization program.

Senator LEVIN. My time is up, thank you.

Chairman NUNN. Thank you, Senator Levin. Senator Thurmond.

Senator THURMOND. Thank you, Mr. Chairman.

Mr. Secretary, we welcome you here. As a member of the Strategic Subcommittee, I want to ask a few questions on the B-2.

The projected production rate for the B-2 has been dramatically reduced. Why is the Defense Department slowing down the production rate, which increases significantly the per unit cost of the aircraft, instead of capping the program costs and the overall buy, which increases or maintains the rate of production to save costs? What impact will this have on the companies involved in the B-2 program?

Secretary CHENEY. Senator, in terms of the profile that we have laid out there, we tried to be responsive to several things. If you go forward with the B-2, which I strongly support—I know you have in the past—we felt it was also necessary to make some adjustments in the total size of the program and in the rate at which we acquired the aircraft, partly because of budget pressures and partly because we have a lot of other things we are trying to buy at the same time, and we are clearly dealing with a smaller budget.

One of the criticisms that has been leveled in the past, a little bit like the sticker-shock argument that Senator Levin made, is not so

much what the capability is that it gives you, but it is this notion that it costs $800 million.

One of the arguments that was made last year was my gosh, you mean you want to spend $9.6 billion in 1 year? That is too large a percentage of our total procurement budget, or too large a percentage of your total defense budget.

So, the profile we have selected gets away from that. You do not ramp up the level of producing 24 a year. The maximum would be about 12 a year, and that reduces the total amount of money you would have to have in any one year for the B-2 program. It does drive up the unit costs, no question about it. Anytime you reduce the buy, you are going to drive up the unit costs because of the sunk costs that are already in the program.

In terms of its impact on the companies, I am sure they would probably rather build 132 than they would 75, but my hope is that they will be willing to go forward with the program at the levels we are recommending, if Congress approves.

Senator THURMOND. Mr. Secretary, at prior hearings your military commanders have indicated that without the B-2, they would have to reconsider their support of the START negotiations. Have the commanders voiced any concern regarding the impact your reduction in B-2 procurement will have on START?

Secretary CHENEY. Senator, the packages that have been worked here that we have recommended, including the B-2, were worked with the service Chiefs. Of course, the Air Force is the most directly involved when we are talking about the B-2. The Chairman of the Joint Chiefs and the Vice Chairman were heavily involved in the review process and the review program for all of these.

I would recommend that you talk specifically with the Chiefs. I am reluctant to speak for them today because I have not polled them specifically on that question, but it is my understanding that they do support continuation of our START efforts and, depending upon what provisions ultimately are in the treaty, would feel comfortable supporting it, assuming the strategic modernization program we have here goes forward.

Now, if you change that in significant ways, if you change a significant provision in the START Treaty, if you knock out a big chunk of strategic modernization, they either collectively or individually might have a different judgment. But I do not think the recommendations I have made on the B-2 here today would lead them to change their basic position to date.

Senator THURMOND. Mr. Secretary, during previous hearings on the B-2, we were told that the operation and support costs for a B-2 would be roughly $8 million per year per aircraft. Considering the reduction in the B-2 buy, what is the impact on the operations and support costs per aircraft?

Secretary CHENEY. I am guessing, Senator that it would increase the cost because you are going to have to maintain the infrastructure, the logistical support for fewer aircraft.

Senator THURMOND. Do you have an estimate of how much?

Secretary CHENEY. I do not, but I would be happy to provide that for the record.

Senator THURMOND. Thank you.

[The information follows:]

B-2

The per year per aircraft operations and support cost for the B-2 under a 75 aircraft buy profile is $7.9 million.

Mr. Secretary, a question on the C-17. In a February press report General Butchko, the C-17 program manager, indicated that as the C-17 program moves into production there is room to reduce the total cost estimates of the C-17. He said that implementation of total quality management principals at Douglas Aircraft will streamline aircraft development and reduce costs.

Do you have any indication that the cost of the C-17 may decrease as Douglas Aircraft gets additional experience in manufacturing the aircraft?

Secretary CHENEY. I do not have any hard evidence of that. I think it is generally true. I think our experience has been, and this has been true of McDonnell Douglas too, over the years that after you get a production line started and the employees get familiar with the technology, and we learn more about the manufacturing process that we do in fact learn from that experience in terms of reduced cost per aircraft with respect to manufacturing.

Usually that kind of improvement, in our cost experience, is built into the cost estimates that are provided and my guess is there are certain assumptions about that improvement built into the numbers we have and the presentation we have made today.

Senator THURMOND. Mr. Secretary, I want to commend you for the bold steps you have taken and the vision and courage you have shown in coming up with your recommendations. It was not an easy task, and I think you should be highly complimented.

Secretary CHENEY. Thank you, Senator.

Senator THURMOND. I ask unanimous consent that my opening statement follow that of the ranking member.

Chairman NUNN. Without objection, it will be inserted in the appropriate place in the record, at the beginning of the hearing.

Secretary Cheney, shifting away from the aircraft study to another problem that is both long range and immediate, we have the supplemental appropriation bill on the floor. Last year's defense budget summit provided $305.5 billion for defense.

Last year, the Bush administration recommended shifting defense funds from 1990 for such programs as assistance to Central America, aid to Poland and Hungary, State Department functions, Department of Energy matters, as well as a large amount of money for the drug transfer. Of course, in some cases Congress increased that. Congress was certainly part of that deliberation. Now the administration recommends funding aid to Panama and Nicaragua also with cuts in the 1990 budget.

When I add all of those up from last year, plus what we have in the supplemental now, we are cutting the 1990 defense budget, last year's budget, right in the middle of the year a total of $7 billion. I do not think people recognize that that is what is being done. But according to my figures that is what is being done. I may be wrong.

We now have a supplemental on the floor, it came from the House. The House added domestic programs in, in effect spending defense money to pay for domestic programs. We have a whole

series of amendments lined up out there on the floor for more domestic programs coming out of the 1990 budget.

I guess my question to you is, have you recommended within the administration or could you recommend to us where to draw the line? Because, in effect, Dick Darman has become the banker, and the defense budget is funding foreign aid, emergency assistance, as well as beginning to fund a number of domestic programs.

I do not know where we stand, I do not know what the administration's guideline is on this. What is the guideline that the Bush administration has about the use of defense funds?

Secretary CHENEY. I, as Secretary of Defense, of course happen to be presiding at the time when a large number of people on Capitol Hill and elsewhere have concluded that we can afford to cut the defense budget, and that coupled with our overall Gramm-Rudman ceilings and the desire not to raise taxes and the desire to meet the bogeys with respect to future deficits, leads consistently to a return to trying to find ways to pay for programs, and given the size of the defense budget, smaller than it used to be, but given the size of the defense budget, we often are identified as the bill payer.

Within reason that is not necessarily fundamentally a bad idea. In the area of drugs, for example, we have picked up new missions there, and we have tripled the amount of money we spend within the Department on that issue now. The Department of Energy, a lot of what they do directly relates to our mission and we have oftentimes in the past solved problems——

Chairman NUNN. But the drug package though financed from defense funds was far beyond what Defense spends on drugs——

Secretary CHENEY. That is right and some of it went to other purposes as well.

Chairman NUNN. It went to all the other purposes.

Secretary CHENEY. Yes. The President made the decision that he wanted to go forward with the reprogramming to finance Panama's rebuilding and funds for Nicaragua out of the Defense budget.

I did not challenge him on that. That is his decision to make. We put together the package so that it made sense. I think it is a good package, and I think as a general proposition that we have a big stake in recovery in Panama. Twenty three Americans gave their lives in the operation in Panama, and I think it would be a very serious mistake for us, as a nation, to allow the victory that was won down there last December to be lost now because of our inability to finance an adequate budget in terms of aid and assistance. So I do not have strong objections to that.

There is no question but what the continued practice of tapping the Defense budget for other purposes is a problem. It happens not only in the kinds of things you mentioned. I can show you a long list of items that Members of Congress have added over the years through the authorization and more importantly and more appropriately perhaps through the appropriations process, trying to get me to fund things that have nothing to do with defense.

I am currently under a very intense lobby by Members of Congress, who shall remain nameless, for a program which shall remain nameless, and I have absolutely no use for it. It has no relationship to the Department at all, but the money is in there in the budget. The question I get now as I go out on the floor as I did

as a former member a few minutes ago is, hey, Dick, when are you going to fund X?

There are members of the administration——

Chairman NUNN. Is that coming from this committee?

Secretary CHENEY. No, in this particular instance it is coming from another committee.

But the point is, when you are the biggest pot of money in town, everybody who has an idea for a new program or a project they want, automatically looks at it.

I think it is up to us, myself as Secretary, the members of the committee who have jurisdiction over the Department, to do everything we can to fend off those efforts. I think we can probably do a much better job in terms of how we do our business in the Department if we did not get nickeled and dimed over the course of a fiscal year. If we have a budget at the beginning of the year and then could live with it, it would be a lot easier to manage.

I visited one of our Active duty units in California just this week, and while I was there I was informed that their O&M account had been dunned $400,000 to pay for something else. It creates real problems in terms of trying to manage the Department, no doubt about it. But on occasion, given the overall situation we are faced with and the budget ceilings we are up against, and the deficit problems we have, when we come up against what is truly an urgent national priority like for example, the Panama, Nicaragua situation, then the President makes a decision, and then once he has made a decision it is up to me to support it.

Chairman NUNN. Well, of course, there has been no line drawn between foreign policy and domestic. So there is no ground to stand on when you go to the floor and you say, well, I am not in favor of putting the money from defense into Headstart even though I support the Headstart program and think it needs more money.

Then they ask the next question. The Department of Defense or the Bush administration, went along with the House and put money in Veterans and put money in flood insurance—flood damage. We have lost our bearings. There is no point at which you can say this is it or there is no rule. So there is an open-ended kind of check writing going on in the Defense budget for 1990.

What that is going to do, is compound the difficulty in 1991, because if these funds do not need spending, and some of them do not, I agree with you on that, the rational thing to do is to roll them into 1991 and then avoid some of the more stringent sacrifices that have to be made to meet the 1991 budget.

Secretary CHENEY. If I may, Mr. Chairman, some—and probably I should not say this, I may regret this at a later date—but some of the sources that were identified to fund those urgent national priorities were things we did not want to spend money on anyway.

Chairman NUNN. Well, some of them were things I did not want to spend money on either. But the things that we do think are very urgent are now going to get hit hard because we do not have any money from those sources. I wish we could—I am just trying to get bearings. I hope you will think about this.

Secretary CHENEY. I think, Mr. Chairman, you and I share the same basic goal and objective and that is to do our jobs with respect to those things that we have jurisdiction over. Certainly I

want to do everything to cooperate with the committee in that regard.

I would welcome a situation in which I got a budget and I could live with it and I knew I was not going have to change it, maybe even for 2 years. That would be heaven in terms of the Defense Department. Unfortunately, that is not the way the world works these days.

Chairman NUNN. Senator Warner.

Senator WARNER. Thank you, Mr. Chairman.

Mr. Secretary, I certainly want to associate myself with those members who have expressed, as I think I did in my opening comments, not only appreciation as a citizen of this country, but as a Member of Congress, for the job you are doing. We want to continue to support you, and I think the question asked by the chairman is a very pertinent one. It is something that he and I discuss constantly.

Momentarily, we are going to be called to the floor to vote on the issue of whether or not to support the Panama request, i.e., should defense dollars be diverted into domestic spending. So when you put a program up as a target, then it is up for grabs from all corners.

Two items: One, as we sit here and look at this program that you have submitted to us, and you may wish to answer this for the record, but I think it would be helpful to know if any of these decisions impact on the fiscal year 1990 budget and will restructuring of the programs, or some of them, in 1990 be proposed? In other words, let us look backward for a few minutes to the previous fiscal year.

Secretary CHENEY. To the best of my knowledge, Senator, these programs we are talking about do not have an impact—the changes do not have an impact on 1990—the year we are now in. They do have some modest impact, as I mentioned at the outset in 1991, and we have conveyed that to the committee.

If we find, as we work these numbers, and work with the contractors involved and so forth that there are some funds here that are affected in 1990, we will be happy to convey that to the committee.

Senator WARNER. Yes, because I would assume that you have contract renegotiation which might have, through those clauses, an impact on the contracts executed under the 1990 funding program.

Secretary CHENEY. It could.

Senator WARNER. We have discussed here today the unit cost of the B–2. I think we should also explore for the record the unit cost of the C–17. Again, my calculations under the old plan of 210 aircraft with the $42 billion program would work out to $200 million per copy. The plan as proposed now, 120 aircraft under a $30 billion program would work out to roughly $250 million.

Does that sound about right?

Secretary CHENEY. That sounds like it is in the ball park, Senator.

Senator WARNER. Last question. We sit here year after year and we listen carefully to you and your predecessors and we develop a certain body of words, and I always hang very closely to those

phrases which describe superiority. I have through the years consistently supported maritime superiority.

Yes, I know that I have prior associations with the Navy, but I support this because we are a maritime Nation, and we have used the term maritime superiority, as have your predecessors.

But today as I listened very carefully, you used the term air superiority, and in sort of a political context, in other words, a strategy context rather than just a specific mission or military context. Clearly, if we have to mount a certain type of military operation we would need adequate if not superior air cover. That would be a tactical planner's responsibility.

But are you saying that we, the United States, should have air superiority in a manner consistent with what we have advocated for years as maritime superiority? People look at these terms and they become important when we get into areas like arms control.

For example, for many years some used the term strategic superiority in terms of the nuclear weapons. Now I think we are back to the point where we are striving in arms control to strike less tensions, perhaps equal numbers and we are moving out of that doctrine of one trying to have superiority over the other. I am intrigued by your use of that term.

Secretary CHENEY. I did not mean to give it any special new significance. I was using it within the context of the aircraft review and when we talked about air superiority, did it mean certain things. It is more of a technical term with respect to the capacity of pilots flying our aircraft to defeat any potential threat.

It relates to the radar cross-section of the aircraft and how good the radars are on the aircraft and how good the missile is and how fast it will turn and what its range is and those specific things that influence combat between aircraft and that air superiority is a doctrine that has been an important part of our thinking for a long time. Obviously you would not deploy significant naval forces without having air superiority over them. You would not want to land forces on a hostile beach without being able to control the air over them.

Senator WARNER. I just raise it. In terms of our planning, we are an island nation, bounded by oceans. In sharp contrast, the Soviet Union is a land mass and can reach its principal allies through road or rail systems, unlike the sea which is the means by which we convey our support for our allies beyond these oceans.

So what you are saying is the term maritime superiority remains. The term air superiority you were using more in a military doctrinal sense?

Secretary CHENEY. That is correct, Senator.

Senator WARNER. I thank the Secretary. Thank you, Mr. Chairman.

Chairman NUNN. Thank you, Senator Warner. Mr. Secretary, thank you very much for being here.

Secretary CHENEY. Thank you, gentlemen.

[Questions for the record with answered supplied follow:]

QUESTIONS SUBMITTED BY SENATOR J. JAMES EXON

Senator EXON. Secretary Cheney, you have outlined a series of plane quantity reductions for the B-2, A-12 and C-17. You have also suggested stretching out many

programs, including the ATF and ATA. Based on your proposed changes, what is your estimate for each plane's total program cost and per plane cost? How does this compare to the cost estimates before the quantity reductions and stretchouts?

Secretary CHENEY. Based on preliminary estimates, the proposed changes in program costs as a result of the Major Aircraft Review (MAR) decisions are as follows:

	MAR Proposed Changes		PRE MAR Programs	
A/C	Cost for #	Cost Per A/C	Cost for #	Cost per A/C
A-12	$57B for 620	$92M	$74B for 850	$87M
ATA	$46B for 400	$114M	$40B for 400	$101M
ATF	$85B for 750	$113M	$79B for 750	$105M
NATF	$59B for 546	$107M	$66B for 618	$107M
B-2	$61B for 75	$815M	$75B for 132	$571M
C-17	$30B for 120	$249M	$42B for 210	$199M

Note: All costs TY$; All costs total costs, including already sunk cost.

THE B-2 AND THE SIOP

Senator EXON. Secretary Cheney, in your testimony you state that the aircraft review process reexamined U.S. national security objectives and interests. Did this review include examination of the SIOP? SAC Chief General Chain has supported 132 B-2s based on what he states is his mission dictated by the President to put at risk a certain number of Soviet targets based on the SIOP. Has the number of targets that need to be placed at risk changed? Or is our ability to do so with 75 B-2s as effective as with 132 B-2s?

Secretary CHENEY. The decision to reduce the planned number of B-2 bombers took into account both changes in the threat (including implications for U.S. targeting requirements) and fiscal reality.

The basic rationale for 75 aircraft is that it gives you a deployable, manageable asset. It gives you two wings of 30 aircraft each, plus an extra 15 aircraft for maintenance and upkeep and training. To go below this number makes for an enormously expensive system to operate and not all that much capability.

Two deployable wings are needed in order to have a significant impact in terms of Soviet air defenses and in terms of capitalizing on the benefits of the penetrating bomber.

Senator EXON. Secretary Cheney, the study group examined alternatives to the ATF program including the F-15, F-16 and a single engine ATF variant. The conclusion of the group is that the current twin-engine ATF is the most effective platform for the air superiority mission. Did this analysis include the cost tradeoff between the ATF and F-15 or F-16 variants? What is the anticipated unit cost for each and how does this compare with the ability of each to carry out its mission (i.e. a cost-benefit analysis)?

Secretary CHENEY. The Department's review compared acquisition life cycle costs for each alternative over a 30 year period in order to capture potential hidden costs in the out years. The F-15 variant acquisition costs from fiscal year 1991 to fiscal year 2020 in fiscal year 1990 dollars was $52 billion. The F-16 variants (F-16X and F-16XL) were $35 billion and $36 billion respectively. Regardless of cost, the analysis showed that non-stealthy alternatives such as the F-15 and F-16 variants fell significantly below the ATF in survivability and first shoot-first kill performance and could not survive in the ATF threat environment.

QUESTIONS SUBMITTED BY SENATOR JOHN GLENN

B-2

Senator GLENN. Your statement indicates that 75 aircraft will provide two operational wings. Will you tell us the number of aircraft in each wing; the number of bases required; the number of training and test aircraft required; and the number of attrition and pipeline aircraft?

Secretary CHENEY. [Deleted.]

Senator GLENN. Did the review consider procuring only enough aircraft to outfit one operational wing at one base? Given the hoped for operational capability of the

B-2, wouldn't one wing provide a significant strategic or conventional combat capability?

Secretary CHENEY. During the B-2 Major Aircraft Review, various B-2 forces, including a single wing, were evaluated. The review considered the impact of forces with less than 132 aircraft upon nuclear deterrence, Soviet air defense, operational capability and aircraft supportability. We judged, based on discussions with the review panel and others, that you need about two wings of B-2s to have a significant impact in terms of stressing Soviet air defenses and adding to our overall deterrent capability. One must additionally consider the cost of a logistic and training infrastructure required to support aircraft operations. For forces with less than around 75 aircraft, this support would be excessively costly for the capability achieved.

Senator GLENN. Last year we were told that any changes to the proposed B-2 procurement profile would increase the total cost of the program. Your letter to this committee last June said that the projected cost of $70.2 billion for 132 B-2 was based on key assumptions in three areas: "protecting fixed price options for certain subsystems, a multi-year procurement strategy in fiscal year 1993, and achieving planned cost reduction initiatives." What happens to these key cost saving assumptions if only 75 aircraft are procured?

Secretary CHENEY. The three cost savings assumptions are being used to reduce the cost of the 75 aircraft program. The fixed price options which procure selected subsystems from subcontractors at discount rates are available and planned. The savings associated with the fixed price options is $.9 billion. Multi-year procurement of 44 aircraft from fiscal year 1994 through 1997 is also planned. The cost reduction initiatives are being incorporated; however, because of the reduced buy, the savings is now approximately $.6 billion. (We have also achieved $.4 billion in savings through configuration changes to the aircraft.) Overall, because of the relatively high fixed cost of production, the economic cost of producing the B-2 is heavily dependent on the rate under which they are procured. As a result of both congressional and DOD decisions the current B-2 schedule procures aircraft much slower than the schedule that supported last year's $70.2 billion estimate. Thus, the current program will result in higher unit costs than the last year's program.

Senator GLENN. Regarding the assumption of protecting fixed price options for certain subsystems, I was told last year that the Air Force had already contracted for enough subsystems (avionics, radar, computers, etc.) to outfit at least half of the planned buy of 132 aircraft. Is this true, and if so, did this contractual arrangement unduly influence the results of the review?

Secretary CHENEY. This is not true. The contractual arrangements allow Northrop to acquire 11 additional shipsets of equipment over a period of 3 fiscal years (two in fiscal year 1989, five in fiscal year 1990 and, four in fiscal year 1991). The Air Force has currently funded the acquisition of the seven shipsets for fiscal year 1989 and fiscal year 1990. Funding for the four shipsets in fiscal year 1991 will be included as advance buy funds in the fiscal year 1991 Appropriations Act. The B-2 Major Aircraft Review (MAR) encompassed all aspects of the B-2 program including fixed priced options.

Senator GLENN. Do we have any other contractual arrangements for the systems, subsystems beyond the 10 LRIP aircraft currently approved by Congress?

Secretary CHENEY. Yes. We currently have a long lead contract for five aircraft for fiscal year 1991. This advance buy requirement was approved in the fiscal year 1990 Appropriations Act.

Senator GLENN. Unclassified sources indicate that the B-1 has a radar cross section 100 times less than a B-52. Although the last new B-52 was delivered to the Air Force in 1962, through a series of upgrades, the B-52 has remained a viable penetrating bomber, and is standing alert even as we speak. If the B-52 is any example, we should expect to keep the B-1 as a viable penetrating aircraft until at least the year 2015. Did your B-2 review look closely at all possible upgrades to the B-1 to keep it as a viable penetrating bomber?

Secretary CHENEY. Yes. The Major Aircraft Review looked at a fiscally unconstrained option for the B-1B allowing it to be modified with numerous upgrades to help keep it a viable penetrator past the year 2000. However, the Major Aircraft Review concluded that there is a practical limit to electronic countermeasure enhancement capabilities to contribute to the B-1B's penetration survivability. Consequently, the B-1B penetration capability is not assured after the year 2000.

MAJOR AIRCRAFT REVIEW

Senator GLENN. Secretary Cheney, I understand that neither of the two ATF prototypes are near representative of the NATF aircraft. With the slowing down of the ATF program, will DOD ensure that a more representative Navy version of the ATF is developed?

Secretary CHENEY. The Navy and Air Force are striving for the highest degree of commonality on both the ATF/NATF and A-12/ATA programs. Commonality is a major consideration at every stage of development for ATF/NATF. The primary example of these efforts to ensure commonality is the Joint Integrated Avionics Working Group (JIAWG), which is successfully designing the avionics architecture for our next generation aircraft (A-12, ATA, ATF, NATF and LH) with a high degree of commonality. There are however, areas in which commonality between the ATF and NATF are impractical or excessively expensive. For example, the Navy must accommodate configuration changes for aircraft carrier suitability and unique mission requirements. At this early stage of the ATF/NATF program it is evident that both aircraft will share a common engine, a large number of subsystems, and will utilize the same avionics except where mission requirements dictate differently. The ATF may physically appear to be dissimilar to the NATF variant, however, current estimates indicate that both aircraft will be approximately 60 percent common. The 2 year delay in ATF production may lead to increased opportunities for the development of a more common baseline aircraft configuration.

ATF

Senator GLENN. I also understand that the ATF is a single mission, fighter aircraft. Given the budget limitations and advanced technology, it seems to me that the ATF/NATF should be multi-role aircraft such as the F-15E and F/A-18. How would you respond?

Secretary CHENEY. The first mission that must succeed for all other operations to be successful is air superiority. This is the first concern of any joint force commander. For this reason the ATF will be missionized for air superiority. Tradeoffs to missionize for the air-to-ground mission would adversely impact this mission. However, the ATF will have an inherent capability to carry air-to-ground munitions.

QUESTION SUBMITTED BY SENATOR JOHN W. WARNER

ATF UNIT COSTS

Senator WARNER. What do you anticipate the effect of the 2 year development delay to be on the ultimate flyaway cost of the ATF?

Secretary CHENEY. The Major Aircraft Review decision on ATF included, in addition to the 2-year extension of development and the corresponding delay in production, a change in peak production rate from 72 to 48 aircraft per year. The Air Force expects the Major Aircraft Review decision to increase flyaway cost from $40.6 million to $43.5 million, in base year 1985 dollars. (In fiscal year 1990 dollars, that is equivalent to a change from $47.9 million to $51.3 million.) The change in peak rate, rather than the delay in starting production, is chiefly responsible for the increase.

[Whereupon, at 5:46 p.m., the committee adjourned.]

DEPARTMENT OF DEFENSE AUTHORIZATION FOR APPROPRIATIONS FOR FISCAL YEAR 1991

TUESDAY, MAY 1, 1990

U.S. SENATE,
COMMITTEE ON ARMED SERVICES,
Washington, DC.

DEPARTMENT OF ENERGY FACILITIES, COMPLEX MODERNIZATION, AND ENVIRONMENTAL AND WASTE MANAGEMENT ACTIVITIES

The committee met, pursuant to notice, at 9:34 a.m., in room SD-628, Dirksen Senate Office Building, Senator J. James Exon presiding.

Committee members present: Senators Nunn, Exon, Levin, Kennedy, Bingaman, Glenn, Wirth, Thurmond, Gorton, and Lott.

Committee staff members present: Arnold L. Punaro, staff director, and Madelyn R. Creedon, counsel.

Professional staff members present: William E. Hoehn, Jr. and Michael J. McCord.

Minority staff members present: George W. Lauffer and John E. Mansfield, professional staff members.

Staff assistants present: Mary J. Kampo and Cindy Pearson.

Committee members' assistants present: Andrew W. Johnson, assistant to Senator Exon; Kenneth N. Luongo, assistant to Senator Levin; William J. Lynn and Christopher E. Paine, assistants to Senator Kennedy; Edward M. McGaffigan, Jr. and John Gerhart, assistants to Senator Bingaman; Milton D. Beach, assistant to Senator Glenn; Jefferson B. Seabright, assistant to Senator Wirth; Robert M. Soofer, assistant to Senator Gorton; Charles G. Pearcy, assistant to Senator Lott; and Eric H. Thoemmes, assistant to Senator Coats.

OPENING STATEMENT OF SENATOR J. JAMES EXON, PRESIDING

Senator EXON. The committee will please come to order.

We meet today to hear the testimony of Adm. James D. Watkins, Secretary of the Department of Energy. Welcome, Mr. Secretary. We are always glad to have you here, and we are very pleased that you are here to discuss some things that are of critical importance to this committee, as you know full well. As has been the practice, Senator Nunn asked me to chair this meeting of the full committee this morning. All members of the full committee have been notified of Admiral Watkins' appearance, and I am sure that many members of the committee will be here for this very important meeting.

The Department of Energy has before it many challenges, not the least of which is resuming production at the Savannah River Site reactors and the Rocky Flats plant in a safe and environmentally sound manner to meet this Nation's defense material needs. At the same time, the Department is confronted with the staggering task and cost associated with disposing of the waste and cleaning up the soil and water contaminated from over 40 years of production operations. While meeting these current needs, the Department must also adequately plan for the future.

The purpose of today's hearing is to examine the Department of Energy's progress in these areas and to hear from the Department concerning its plans for the future. This committee is extremely concerned about the Department's plans for the future.

The 2010 Report, a plan published in December 1988 during the final days of the last administration, has been withdrawn, and yet here we are in the fifth month of 1990 without a replacement report or any sort of planning document to indicate the Department's future plans.

The Department of Energy has chosen not to comply with the statutory requirement that it submit an annual 5-year budget plan for national security programs beginning in January 1990. To complicate matters even more, it is fairly clear that the 5-year plan of the environmental restoration and waste management activities is not adequately funded and that the Department's budget request for these activities is encumbered with activities that bear a closer resemblance to production than to clean-up.

These shortcomings severely impact on the ability of this committee to do its work. We look forward to hearing when the Department plans to correct these deficiencies and to submit the 5-year budget plan, as well as a more realistic environmental restoration and waste management plan.

Admiral Watkins, this committee is very much aware that you and the Department are confronted with operating facilities such as the three Savannah River reactors and Building 771 at Rocky Flats that are old, that do not fully meet current design, environmental, or safety standards for operation, and that many would say have outlived their design life. For those reasons, your plan to replace or upgrade these existing facilities and to keep the facilities operating in the meantime are of critical concern to this committee and the public. The safety and health of the Department of Energy, the contractor employees, and the public are of primary concern.

The various problems and deficiencies identified by the Defense Nuclear Facilities Safety Board, as well as your Tiger Teams and other internal oversight functions such as the Advisory Committee on Nuclear Facility Safety, must be fully addressed in a timely and public fashion. As you have stated on many occasions, production goals must not override safety and we salute you for that statement.

This committee is also aware that you have undertaken a daunting task, and that you have worked tirelessly to turn the Department around and to make the "new culture" a reality. Although there is a lot to accomplish, you have come a long way, Mr. Secretary, and I think we all should recognize that.

Admiral Watkins has submitted a statement, and without objection, the full statement will be made a part of the record.

Following the Admiral's statement, the open portion of this hearing will consist of at least one round of questions. An additional round will be added if my colleagues desire. We will then adjourn this portion of the hearing and reconvene 10 minutes later in SR-222 of the Russell Building to continue the hearing in closed session.

Let me now call upon my distinguished colleague from South Carolina, who has worked very closely with us on this committee on these matters, for any opening statement that he might have. Then we will go to your statement, Admiral Watkins. I would say at this time we would be glad to proceed in any fashion you see fit, either you can read your full statement that I have already accepted in the record, or if possible it might save time if you could summarize. Senator Thurmond.

Senator THURMOND. Thank you very much, Mr. Chairman. Admiral Watkins, you appear before us at a time when the United States is facing momentous change in our relationship with the Soviet Union. We are facing difficult decisions—decisions that will determine our strategic nuclear posture for years to come.

This is a time when the Nation needs a clear consensus that we will continue to rely on nuclear weapons for deterrence, and a clear demonstration that we have the means to do so. At present, unfortunately, we have neither. We currently have no agreement on how many and the type of strategic weapons we need and we currently cannot manufacture nuclear weapons at all.

This is not the time or place to address the question of the size of the strategic stockpile, but it is a proper time to address the question of our ability to manufacture and maintain the stockpile in the future. For nearly 10 years, Congress has been concerned with the obsolescence and degradation of the nuclear weapons facilities. I can recall that nearly every year we debated reconstruction and modernization of the defense facilities of the Department of Energy, and every year sizable investments were appropriated, yet today we have come to the point where our ability to resume manufacture of nuclear weapons hangs by a thread. Mr. Chairman, I am greatly alarmed by the situation in which we find ourselves today.

Admiral Watkins, I believe our first priority is to resume operations at Savannah River and Rocky Flats as soon as possible. In this regard, I am concerned that your recent commitment to carry out programmatic environmental impact statements reexamining the very existence of these facilities will allow intervenors to sue to prevent the resumption of operations. I hope you will address this issue in your statement.

The next priority, in my view, must be to modernize the complex to allow a nuclear deterrent to be maintained safely and in full compliance with the environmental laws. Therefore, I believe we must face the issue of replacement at Rocky Flats with the newest and safest technology as soon as possible, and I believe that the new production reactor must move forward as rapidly as possible. We cannot continue to rely for our national security on 40-year-old reactors and processing facilities.

Finally, I believe it should be a high priority for the Environmental Protection Agency and the States to develop regulations and permits that will allow the Department of Energy to operate in compliance. I continue to find it most alarming that the EPA will not permit the DOE to either store or dispose of the hazardous mixed waste that is generated in bomb manufacture. As a result, the DOE is in perpetual violation of the environmental laws, and can do nothing about it but stop building nuclear weapons. That is intolerable.

Faced with these challenges, Admiral Watkins, I want to welcome you. I also want to say how much we rely on you and the excellent job you are doing at the DOE. We feel that you are doing everything you can and we are proud of you, and we know that you will steer this country in the right direction. Thank you very much.

Senator EXON. Thank you, Senator Thurmond, for an excellent statement. Admiral, I hope that the people of the United States will recognize your distinguished service in the past. No one, to my knowledge, questions your integrity or your ability. I saw a report card in the Washington Post this morning on you. I am not your teacher and I am not your guardian, but if I were your teacher, I would not have given you that poor of a report card.

Senator Thurmond touched on some things that I think are of critical importance, that we have to keep everything in perspective. The facts of the matter are, today we have no tritium production in the United States of America, and have not had for a number of months, and maybe it has stretched into years now. That does not for a moment indicate that I am not very much concerned about what confronts us. We have to move aggressively ahead meeting all of the safety concerns and have the critical materiel that is necessary for our nuclear deterrent, because I wish I could say to you today that we do not need any production facilities for critical materiels. That is not the case. Everything that I understand from the threat assessment hearings that we have had in the Armed Services Committee, backed up by our intelligence information, is that the Soviet Union evidently is going to be relying much more in the future on their nuclear strategy, or nuclear deterrent, for their national security interests than ever before, especially with the ever-increasing deployment of SS–24s and SS–25s, so we have to keep all of this in perspective.

I appreciate the very difficult task that you have undertaken. We are going to be asking you some questions today not in a critical manner, I hope you will understand, but to try to express our concern and our effort to want to help you in the tireless, tireless efforts that you have undertaken. I would simply like to say that I know first-hand that you did not seek the present position that you hold. I suspect that Jim Watkins, the great individual who has served this country with distinction for many, many years, would probably be a whole lot better off if he had gone off into retirement and lived the good life rather than undertaking this terrible burden that you did not create, but you are doing your best to work your way out of. With that statement, just let me tell you that all is not perfect, but I for one, think that you are trying very hard. With that, I recognize you for your statement.

Senator GLENN. Excuse me, Mr. Chairman, I have an opening statement that I would like to ask unanimous consent be included in the record. I have another hearing that I have to chair for a while, and I will try to get back to this hearing, but I ask unanimous consent that my statement be inserted in the record.

Senator EXON. Without objection, that is so ordered.

[The prepared statement of Senator Glenn follows:]

PREPARED STATEMENT BY SENATOR JOHN GLENN

About 10 years ago I was asked by the workers at the DOE's Portsmouth gaseous diffusion plant in Ohio to investigate occupational safety and health problems at their facility. The workers told me about eating in contaminated areas, constant exposure to uranium dust, and a general unwillingness by the contractor running this plant to heed their complaints about unsafe working conditions. Shortly thereafter, the General Accounting Office confirmed several of these complaints.

This experience was the first stage in a long journey on my part. All told, this effort involved dozens of General Accounting Office reports, official reviews by the DOE and the National Academy of Sciences, and numerous days of congressional hearings. After all of this, we now all agree that the environmental, safety, and health problems of the DOE are of such magnitude that they have put the U.S. nuclear weapons program into a crisis that will not be easy to resolve.

To a major extent, the enormous problems facing America's nuclear weapons program stem from an elemental lack of accountability to the very citizens it was supposed to protect. Isolation, secrecy, and exclusion from the laws by which all other groups in our society have had to abide have created a bureaucracy that has been operating outside of the basic principals of democratic government for decades.

To his credit, DOE Secretary Watkins has taken several initiatives, which I strongly support, to address these problems. The DOE's environmental restoration and waste management program has been placed under a central management regime and a 5-year spending plan has been developed. The out-dated contracting practices of the DOE, which have prevented meaningful contractor accountability, are now being changed. A system of rigorous internal environmental, safety, and health assessments has been instituted. Programmatic environmental impact statements are to be done on clean-up and modernization of the DOE weapons complex. Research into the long-range effects of radiation on workers is to be transferred to the Department of Health and Human Services. However, I'm sure that Admiral Watkins will agree that much more needs to be done.

Perhaps the most challenging and difficult problem facing Admiral Watkins is the bureaucractic system of the DOE which, for too many years, hid behind the veil of secrecy while accidents occurred, safety improvements were deferred, and severe environmental contamination grew worse. It is in this bureaucratic system that the initiatives of Admiral Watkins will either take hold or be swallowed up.

In this regard, the General Accounting Office has recently noted that of the 1,731 environmental, safety, and health problems identified by the DOE over the past few years, only 591 or 34 percent have been resolved. Only 46 or 41 percent of the DOE's 113 highest priority problems have been resolved. Unfortunately, in terms of environmental problems, the Fernald facility in my home State of Ohio has the dubious distinction of having the largest number of unresolved problems at DOE sites and has the highest number of such problems categorized as having a high risk for a threat to health to occur.

The action plans to correct these problems not only at Ohio DOE facilities but other DOE facilities are still languishing in the DOE system.

Also new problems have surfaced. An investigation by the Governmental Affairs Committee, which I chair, has uncovered that the DOE and its contractors at the Hanford site in Washington State ignored repeated warnings of potential explosion hazards in several high-level nuclear waste tanks. I am pleased that the DOE is now moving to establish control over this situation so that we can better understand the nature of these risks.

I do not raise these problems to be critical of Secretary Watkins' management. At issue here is not the credibility of the Secretary of Energy, but rather the credibility of an institution of government—one which has created problems which may persist long after the tenure of any given DOE Secretary. This is why I believe that my legislation (S. 1304), which provides for a long-term institutional framework of accountability, is still necessary.

Senator EXON. Admiral Watkins.

STATEMENT OF HON. JAMES D. WATKINS, SECRETARY OF ENERGY, ACCOMPANIED BY LEO DUFFY, DIRECTOR, OFFICE OF ENVIRONMENTAL RESTORATION AND WASTE MANAGEMENT, DEPARTMENT OF ENERGY

Secretary WATKINS. Thank you very much, Mr. Chairman, and thank you for your kind opening remarks. Insofar as my report card in the paper is concerned, I look at it as a plus, Mr. Chairman, because you see I have given myself a grade publicly many times—a D minus—so with a D I am on the upswing, and I cannot ask for any more than that at this point in time, so it is not that unfair. [Laughter.]

Mr. Chairman and members of the committee, I am pleased, as always, to appear before this particular committee to give you a status on the operations in the Department of Energy weapons complex. The last year has been extremely difficult for defense programs as you have outlined. However, we are making progress, and I want to let you know where we intend to go from here.

I have described the Department's problems at length on other occasions and I do not need to repeat all of that today, so I will focus on the wide range of departmental changes I have initiated over the last year, and I will address a number of important issues of interest to this committee, some of which you have touched on already.

In June of last year, I announced a comprehensive 10-point plan that was designed to restore credibility to the Department of Energy in the areas of environment, safety, and health. I would like to use this opportunity to highlight for you some of the real accomplishments made under the 10-point plan.

First, I established Tiger Teams to provide me with a full and current assessment of not only environment, safety, and health problems at DOE facilities, but more importantly the root cause of these problems as well. This aspect of the Tiger Team program distinguishes it from prior DOE efforts that served only to identify many symptoms without identifying the underlying management problems.

Tiger Team assessments have been completed at 13 DOE sites, including 10 facilities within the nuclear weapons complex. Draft action plans have been prepared for six of the facilities. As you are aware, some of these draft action plans were late, and none of the action plans for the weapons complex facilities have been finalized. I would just refer you to the depth and breadth of the reports coming in from these Tiger Teams that generally reflect the depth of the problems in the facilities. We found that the development of action plans requires more time than we originally scheduled due to the magnitude of the problems being identified. By way of example, this largest one here is the Savannah River Site on the bottom there, the largest of the bunch.

On the other hand, the facilities have not waited to address the problems. In fact, a number of the problems identified by the Tiger Teams have been corrected before they leave the site. In addition, interim actions have been taken to alleviate immediate threats

posed by the problems, and I can outline those in response to questions later.

Major procurement improvements have been effected to motivate contractor performance and meet departmental goals. The award fee contracting structures have been changed to emphasize environment, safety, and health, which now account for over half of the award fee criteria. We have also instituted a new contract clause that provides that failure of a contractor to perform satisfactorily in any area can result in the loss of their award fee in its entirety.

On January 26, 1990, the Department issued a notice of proposed rule-making covering our profit-making management and operating contractors. After review of public comments is concluded, we will determine what adjustments should be made.

I am committed to strict compliance with the National Environmental Policy Act (NEPA), and have directed that the Department's NEPA policy and practices be revised to correct the overly decentralized NEPA decision-making process to ensure my personal involvement in significant NEPA decision-making and to provide for close coordination with the Governors of the States which host DOE facilities.

I have also directed that programmatic environmental impact statements be prepared for the environmental restoration and waste management 5-year plan, and alternate approaches to long-term configuration of a modernized nuclear weapons complex, and I will try to respond to Senator Thurmond's comment in that regard a bit later.

In the area of the recent amendments to Price-Anderson, I have established a task force to rewrite the DOE safety orders, established an Office of Nuclear Safety, and directed the DOE to develop regulations to implement the enforcement policy contained in our civil penalty authority.

In order to effectively and systematically implement the change in culture and ensure full accountability on the part of line management, I issued a set of Secretary of Energy Notices. These directives set the organizational foundation and principles for how the DOE will conduct its business in the future. It established the principle that line management is fully accountable for safety in their facilities, that there should be nuclear self-assessment offices in appropriate line program organizations not unlike that in the private sector, and that there will be safety oversight offices which are independent of the line organization as a check and balance. We are well along on the implementation of this directive, including approval of individual organizational arrangements, clarification of roles and responsibilities, and the transfer of appropriate resources.

The major challenge which we continue to focus on is the full staffing of these functions with technically qualified people. We are strengthening the Department's day-to-day management of the weapons complex. The DOE line organizations will be fully responsible for their activities, including field operations. The DOE and contractor line managers will be the first line of safety and environmental compliance.

I am establishing nuclear self-assessment offices within the defense programs, nuclear energy, environmental restoration and waste management, and new production reactors organizations to

ensure that the DOE and contractor line managers are the first line of safety. When the transition towards critical self-assessment is completed, we can be assured that environment and safety are being included as an integral part of the DOE's daily operation.

In addition to the nuclear self-assessment offices within line organizations, I have created the Office of Nuclear Safety (ONS), which reports directly to me. Its exclusive task will be to provide independent oversight of the Department's nuclear activities. It will have no programmatic responsibilities or connections. An enforcement division is being formed within the Office of Nuclear Safety to conduct investigations of alleged nuclear safety violations and to recommend enforcement actions to the Director of ONS and ultimately to me.

I have enhanced the authorities of the Assistant Secretary for Environment, Safety, and Health to assure compliance with applicable rules related to environmental protection, radiation safety, worker health and safety, and now safeguards and security as well, and those aspects of public health and safety that deal with epidemiology and radiological protection.

The latter two independent oversight functions did not exist a few months ago. We are working hard to assure that external oversight is welcome within the Department. The Advisory Committee on Nuclear Facility Safety and the Defense Nuclear Facilities Safety Board provide external oversight. They have full access to all reports and information prepared by DOE managers.

The Safety Board is reviewing the activities associated with the restart of the reactors at Savannah River as well as the resumption of operations at Rocky Flats. I will consider carefully any recommendations that may result from these reviews in accordance with the law.

The Advisory Committee has conducted reviews of issues at the Y-12 plant, Savannah River, and Rocky Flats. In fact, the Advisory Committee conducted public meetings to address Rocky Flats issues on October 11 and 12, 1989, in Golden, Colorado, and then again on December 11 and 12, 1989, and February 20 and 21, 1990, here in Washington and again recently on April 25, 1990, in Golden, Colorado. I would like to submit for the record a copy of a letter from Dr. John Ahearne containing a summary of the Advisory Committee's reviews and recommendations of the Rocky Flats plant. I have made this available to members on the Hill, but I think it is a very informative letter that gives a detailed analysis of what they have reviewed over the years of discrepancies uncovered at the Rocky Flats facility.

Senator EXON. Is that included in your prepared statement?

Secretary WATKINS. No, sir, it is not.

Senator EXON. Then it will be made part of the record, without objection.

Secretary WATKINS. Thank you, Mr. Chairman. We have also taken steps to clarify shutdown authority within the Department as part of our effort to strengthen line management's accountability. Shutdown authority begins with our contractors and proceeds up the line to the DOE area or operations office manager, the program's secretarial office, the Under Secretary, and then me. The Assistant Secretary for Environment, Safety, and Health also has

shutdown authority independent of the line in the event that a crisis occurs, the line fails to act appropriately, and none of the top three DOE officials are available. This is now a matter of our orders.

An important ingredient for effective line management is having a system in place to report unusual occurrences and help assure follow-up action. In a variety of environment, health, safety, and security-related situations, I found that reports available to top Department of Energy line management simply did not reflect actual situations in the field. As a consequence, neither preventive nor corrective actions were instituted in a timely fashion.

We are establishing an entirely new single comprehensive system for reporting and utilizing operations information. It will address all aspects of occurrences, including threshold identification, notification, root cause analysis, reporting, follow-up, and closeout. The proposed order is expected to be issued in the near future. We have been working on it now for about 6 months. It is a very complex and very thorough order. I believe it will resolve concerns regarding past reporting practices identified both inside and outside the Department, including those raised by the General Accounting Office report on the Savannah River reporting program.

As a matter of fact, I think this reporting system is at the heart of the cultural change. It allows an operator, for example, to put himself on report by saying I made a mistake, but not be hurt by it; but we have to go through the root cause analysis and find out what we did wrong in the training program and reflect it all the way back through the system. No program has ever existed in the DOE like this. This is standard in the commercial sector.

On March 27, 1990 I received a report from the Secretarial Panel for the Evaluation of Epidemiologic Research Activities. I accepted this report on the date of the receipt because I had received an advance copy of the final report. I issued six directives designed to address each of the panel's recommendations. I can speak to those a bit later.

Protecting the health and safety of our workers is of paramount importance. At my request, Secretary of Labor Dole agreed to provide help in determining the extent of this noncompliance. Three teams of OSHA inspectors sampled compliance at Mound, Pantex, and the Y-12 plants. Numerous violations were uncovered and, where significant, immediate fixes were implemented.

Regarding air space restrictions over critical DOE facilities, we are trying to enhance security management practice by possible restrictions on facility overflights. Public hearings were held for each facility during March and April. Public comments received at these hearings universally opposed our proposal. The next step in the process is for all public comments to be submitted by May 17, 1990, after which the Federal Aviation Administration (FAA) will issue a proposed rule-making. We would expect the final rule to be issued in February 1991.

The Department's environmental restoration and waste management 5-year plan was developed with broad State and public participation and provides for cleaning up the environment, for complying with environmental requirements, and for finding perma-

nent solutions to managing hazards and radioactive waste. Heretofore, there was no plan.

I expect to seek public review of the first annual update of the 5-year plan in late May. Over the next year I will be working to do a better job of validating program plans and costs. By just having the plan, Mr. Chairman, we had all kinds of new discoveries coming out of the woodwork. That is why the plan has to be adjusted to now. We shook the tree, and some of the rotten apples are still falling on this whole issue. So we have to expect that, never having had a plan and then putting in a plan, we are beginning to have a vehicle on which we can all ride this difficult waste management task. This will help me to better assess the job we are doing and will help me to ensure that we are running a success-oriented enterprise. Perhaps as important, it will help me to ensure that every dollar we earmark for clean-up is well-planned and that it makes sense.

The Department recently published its supplemental environmental impact statement for the WIPP project, the Waste Isolation Pilot Plant. I am presently reviewing the proposed record of decision. I expect that will be issued shortly. In June, I intend to announce the status of the WIPP's readiness to receive waste for the testing program. I am pleased, though, that the EPA has recently reached a preliminary determination to grant the WIPP a no-migration variance, and it is believed that the WIPP is a promising site for a permanent mixed waste repository. I will not make a final decision, however, until I am confident that the preoperational activities identified in my decision plan have been completed.

The Savannah River reactors have been in extended outage since August 1988 to provide needed improvements to reactor hardware, procedures, training, management system practices, and maintenance with special emphasis on improving human performance throughout the system. Corrective actions are well underway, and I would like to announce that the K-reactor is currently scheduled to be restarted for low-power testing in December 1990. Following this low-power testing to verify proper operation, production operations could begin in late December 1990 or early January 1991.

Modifications and improvements for the safe restart of the P-reactor are expected to be completed in March 1991 with power operation in April 1991.

The L-reactor will be the third reactor to be ready for restart, and it will not be ready until September 1991.

I believe that these schedules are achievable and note that the restart dates are predicated on completion of the NEPA decision-making process through resolution of the public comments on the reactor operation environmental impact statement. Additional schedule uncertainties are associated with litigative challenges to reactor operation, new issues raised by the oversight groups reviewing the restart process, and resolution of new technical problems that could emerge.

At Rocky Flats, plutonium operations were suspended in early December during the semiannual nuclear materials inventory. We have extended that suspension of operation to permit EG&G, the new contractor, to install its own management team, gain a com-

prehensive understanding of plant operations, implement several changes in terms of formality and discipline of operations, and increase the margin of safety of plutonium operations. Last Friday I received a briefing from EG&G on the status of the normalization of operations. They presented a schedule which will result in readiness for resumption of operations for the first two buildings by mid-June of this year and the remaining buildings in July.

The Department is currently reviewing this schedule, however, and no approval has yet been granted. We plan to hold public briefings in Colorado to outline actions contained in the schedule. We plan to hold two public hearings on that and two thorough briefings for all officials that deal with these facilities. I have directed the oversight boards to be fully briefed on the EG&G plans, including their evaluation and analysis of the accumulation over the past 30 years of plutonium in the ventilation system at Rocky Flats. Efforts continue to assess accurately the amount of plutonium accumulation, although recent analyses indicate a very low risk of criticality.

EG&G has recently completed their analysis of plutonium contained in the ductwork at Rocky Flats. The results of their analysis indicate probably less than half of the originally estimated amounts are contained in the ductwork. As EG&G further characterizes the material and refines their safety analysis, they will develop short- and long-term solutions to further improve facility safety. Their recommendation will be reviewed by me.

In addition, I have directed that an external oversight group under Science Tech, who conducted our last survey, conduct an independent review of the contractors' response to Science Tech's September 1989 report recommendations. After we have had a chance to consider carefully the comments provided by oversight boards, I expect to make an announcement on the status of resumption of operations in about 1 month.

The proposed Plutonium Recovery Modification Project, the famous Building 371, will provide a reliable plutonium processing facility which is needed regardless of whether the Rocky Flats plant is relocated. This project will significantly reduce the radiation exposure to our workers, reduce waste generation, and help to process backlogged plutonium-bearing material. An environmental impact statement will be prepared for the Plutonium Recovery Modification Project and a safety analysis report will be completed before the facility is allowed to operate. I have informed Congress through you, Mr. Chairman, and other members today of a more detailed report on Building 371.

As you already are aware, future tritium requirements cannot be met indefinitely with the existing production reactors at the Savannah River Site. Two preferred reactor technologies and sites have been identified: a heavy water reactor at the Savannah River Site and a modular high temperature gas-cooled reactor plant at the Idaho National Engineering Laboratory. Our current schedule for the new production reactor calls for having new capacity available in late 1999.

This committee has been most helpful in supporting our need to modernize; however, I felt the previous study you directed us to prepare failed to address more recently identified serious problems

and contained questionable environmental assumptions when reviewed against today's standards. To deal with these shortcomings, I directed that a thorough review be completed and that the DOE prepare a programmatic environmental impact statement in accordance with the National Environmental Policy Act to address the modernization of the nuclear weapons complex and environmental and other issues related to long term plans to renovate the aging nuclear weapons complex.

I expect to address the first of the most pressing modernization needs in the fiscal year 1992 budget, and we will complete our full modernization review under new standards and under the new DOE leadership this fall. Of course, we will be ready at that time to brief the committee on the results of that review.

We had to go back to the drawing board, Mr. Chairman, and I regret that we are late completing the study. I am sure you want a quality product. We simply did not have a quality input before, and we had to go back and redo it. It was not in accordance with all the modern laws and standards; therefore, it contained nothing but a general thrust toward the solution of the problem. We had to start all over again, much as we have had to do on almost every single program, plan, and schedule I have had in taking over the Department.

Also on the programmatic environmental impact statement, Senator Thurmond, my careful review of the NEPA law and what our plans entail convinced me that we had no alternative. We had to do this. It was proper to do it. It will be a chore. We will go through a litigative process undoubtedly, but this has grown to be par-for-the-course today. I hope that this time we will be ready to go through that in a very professional way and be able to come out ahead. We are beginning to win a few in court, not many, but a few. At least we won the nuclear-free zone case in California.

We continue to experience a critical shortage of skilled and technically competent Federal managers. Last year we identified measures to help correct this problem. The Senate supported our efforts. This committee, in particular, was very supportive. Unfortunately, the House was not.

This year we have worked closely with the Office of Personnel Management (OPM) and the Office of Management and Budget (OMB) to develop legislation on a government-wide basis to establish a special salary structure for a limited number of very critical technical positions and to exempt a number of individuals from strictures on military and civilian retirement benefits of the dual compensation laws. Today the Office of Personnel Management will be sending that important legislation to Congress. This must be passed so that we may attract highly qualified individuals to serve within the Department of Energy.

On the other hand, if prospects for passage during this session are considered poor, then I would ask this committee to extract those two elements that address critical positions and dual compensation waivers at a minimum and then move them in this session in accordance with procedures that you deem appropriate. The individuals we are trying to attract are either military or civilian retirees with highly specialized skills. We continue to need these talents to help us solve the problems faced by the weapons complex.

I want to thank you, Mr. Chairman, in particular, and other members of this committee for the assistance you provided last year in efforts to secure special provisions for critical technical positions. I think it was a catalyst for bringing the entire new bill to fruition even in this rather lengthy period of time. Your efforts are greatly appreciated. We hope that you will support us again this year, and I urge the committee to continue to help me obtain relief for this selected number of skilled positions so I can do the job you expect of me.

In addition to the strong technical and management talent, Defense Programs has a critical need for strong leadership. Defense Programs has operated for nearly 3 years now without a confirmed Assistant Secretary. To do the job right in the future, I need to have a confirmed Assistant Secretary. Unfortunately, as you are aware, Mr. Victor Stello withdrew his nomination for this position last week. We are working to identify a new candidate.

Mr. Chairman, I can tell you we are making considerable progress in turning the Department of Energy around and setting a proper course for the future. We have set our sights on significant achievements for the coming year. For example, by the end of this year we expect to have the Rocky Flats facility running, and in the course of planning for restart, to have fully and successfully satisfied internal and external oversight bodies. We also will have open dialogue with the State and its citizens, and I believe they will be satisfied that we have done our homework to assure safe operation.

We also anticipate the opening of the Waste Isolation Pilot Plant this fall for research and testing related to acceptance of the transuranic waste from the weapons production complex.

In addition, we look forward to bringing the first Savannah River Site reactor safely back on line this year after open dialogue and satisfactory completion of the environment impact statement as well as all oversight reviews.

Finally, later this year we expect successful resolution of the legal issues pending in the Ninth Circuit Court, or the Supreme Court if necessary, in order to move forward with the necessary research work to determine the efficacy of Yucca Mountain as the national repository for commercial radioactive waste.

I look forward to continuing to work with you to secure your support, including the necessary resources to carry out the Department's important missions within the newly-established framework that I have addressed today. At this time, then, Mr. Chairman, I will be pleased to answer any questions you may have.

[The prepared statement of Secretary Watkins and information referred to follow:]

STATEMENT OF
ADMIRAL JAMES D. WATKINS, USN (Ret.)
SECRETARY OF ENERGY
U.S. DEPARTMENT OF ENERGY

INTRODUCTION

MR. CHAIRMAN AND MEMBERS OF THE COMMITTEE, I AM PLEASED TO APPEAR BEFORE YOU TO GIVE YOU THE STATUS OF OPERATIONS IN THE DEPARTMENT OF ENERGY (DOE) WEAPONS COMPLEX. THE LAST YEAR HAS BEEN MOST DIFFICULT FOR DEFENSE PROGRAMS. HOWEVER, WE ARE MAKING PROGRESS AND I WANT TO LET YOU KNOW WHERE WE INTEND TO GO FROM HERE.

CURRENTLY, THE UNITED STATES IS PAYING THE PRICE FOR HAVING EMPHASIZED THE PRODUCTION OF NUCLEAR MATERIALS AND WEAPONS AT THE EXPENSE OF MAINTAINING SAFETY MARGINS AND EFFICIENT OPERATIONS, MEETING INCREASINGLY STRINGENT ENVIRONMENTAL LAWS, AND PROVIDING ADEQUATE OCCUPATIONAL HEALTH AND SAFETY PROGRAMS FOR DOE EMPLOYEES. ACCORDINGLY, MANY OF OUR PROGRAMS DEMAND SIGNIFICANTLY MORE NEAR-TERM ATTENTION THAN THEY WOULD HAVE OTHERWISE NEEDED. I HAVE DESCRIBED THESE PROBLEMS AT LENGTH ON OTHER OCCASIONS. TODAY I WILL FOCUS ON THE WIDE RANGE OF DEPARTMENTAL CHANGES INITIATED OVER THE LAST YEAR. I WILL ALSO ADDRESS A NUMBER OF IMPORTANT PROGRAMMATIC ISSUES OF INTEREST TO THIS COMMITTEE.

MR. CHAIRMAN, SINCE I APPEARED BEFORE YOU LAST MAY, I HAVE ESTABLISHED NEW GOALS, INITIATED A MAJOR CHANGE IN THE DEPARTMENT'S CULTURE, AND DEVELOPED NEW BUDGET PLANS TO ACHIEVE THE DEPARTMENT'S OBJECTIVES. THESE CHANGES HAVE RESULTED IN A NEW OPERATING PHILOSOPHY BASED ON THREE MAIN PRINCIPLES: FIRST, THERE MUST BE COMPATIBILITY BETWEEN PRODUCING NUCLEAR WEAPONS AND PROTECTING WORKERS, THE PUBLIC, AND THE ENVIRONMENT; SECOND, THERE MUST BE DEDICATION TO PROFESSIONAL EXCELLENCE IN ALL OF OUR ENDEAVORS; AND THIRD, WE MUST WELCOME AND BE RESPONSIVE TO CONSTRUCTIVE CRITICISM OF OUR OPERATIONS.

THE REFORM ACTIONS I WILL DISCUSS TODAY INCLUDE MY TEN-POINT PLAN, TIGER TEAM FACILITY REVIEWS, CONTRACTING INITIATIVES, A RESPONSIBLE NEPA STRATEGY, INITIATIVES RELATED TO PRICE-ANDERSON, CHANGED ORGANIZATION AND MANAGEMENT ARRANGEMENTS FOR NUCLEAR SAFETY, STRENGTHENED LINE MANAGEMENT WITH CLEAR SHUT

DOWN AUTHORITY, AGGRESSIVE INTERNAL AND EXTERNAL OVERSIGHT, CHANGES TO THE OPERATIONAL INFORMATION REPORTING SYSTEM, EXPANDED EPIDEMIOLOGY AND HEALTH EFFORTS, EXPANDED OCCUPATIONAL SAFETY RESPONSIBILITIES, AND EFFORTS TO SIGNIFICANTLY ENHANCE SECURITY MANAGEMENT PRACTICES INCLUDING POSSIBLE RESTRICTIONS BY FAA ON FACILITY OVERFLIGHTS.

I WOULD ALSO LIKE TO PROVIDE YOU A PROGRESS REPORT ON THE ENVIRONMENTAL RESTORATION AND WASTE MANAGEMENT FIVE YEAR PLAN, THE STATUS OF THE WASTE ISOLATION PILOT PLANT (WIPP) PROJECT, THE RESTART OF THE SAVANNAH RIVER REACTORS, THE RESUMPTION OF OPERATIONS AT ROCKY FLATS INCLUDING THE NEED FOR BUILDING 371, AND THE STATUS OF THE NEW PRODUCTION REACTORS PROGRAM AND THE DOE FACILITIES MODERNIZATION REVIEW. FINALLY, I WILL DISCUSS OUR CONTINUED NEED FOR TECHNICALLY COMPETENT MANAGERS, LONG TERM LEADERSHIP, AND THE NEED FOR ADEQUATE FUNDING TO ACCOMPLISH THESE GOALS.

TEN-POINT PLAN

IN JUNE OF LAST YEAR, I ANNOUNCED A COMPREHENSIVE TEN POINT PLAN THAT WAS DESIGNED TO CHART A NEW COURSE FOR THE DEPARTMENT TOWARD FULL ACCOUNTABILITY IN THE AREAS OF ENVIRONMENT, SAFETY AND HEALTH. THE GOAL OF MY TEN POINT PLAN IS TO RESTORE CREDIBILITY TO THE DEPARTMENT OF ENERGY BY DEMONSTRATING WITH REAL ACTIONS THAT DOE IS COMMITTED TO COMPLYING WITH THE NATIONS' ENVIRONMENTAL LAWS AND IS CAPABLE OF DISCHARGING ITS MANY RESPONSIBILITIES IN A MANNER THAT PROTECTS THE HEALTH AND SAFETY OF DOE EMPLOYEES AND THE PUBLIC.

THE PLAN INCLUDES MAJOR INITIATIVES SUCH AS: RESETTING DEPARTMENTAL PRIORITIES; CHANGING CRITERIA FOR AWARD FEES; CONDUCTING "TIGER TEAM" ASSESSMENTS; STRENGTHENING LINE MANAGEMENT CAPABILITIES; ACCELERATING ENVIRONMENTAL CLEANUP; ACHIEVING COMPLIANCE WITH OSHA STANDARDS; AND, CHANGING THE DEPARTMENT'S APPROACH TO EPIDEMIOLOGICAL STUDIES.

I WOULD LIKE TO USE THIS OPPORTUNITY TO HIGHLIGHT FOR YOU SOME OF REAL ACCOMPLISHMENTS WE HAVE MADE UNDER THE TEN POINT PLAN.

TIGER TEAM FACILITY REVIEWS

I ESTABLISHED "TIGER TEAMS" AS PART OF MY PLAN TO PROVIDE ME WITH A FULL AND CURRENT ASSESSMENT OF NOT ONLY THE ENVIRONMENT, SAFETY AND HEALTH PROBLEMS AT DOE FACILITIES, BUT MORE IMPORTANTLY, THE ROOT CAUSES OF THESE PROBLEMS AS WELL. THIS ASPECT OF THE "TIGER TEAM" PROGRAM DISTINGUISHES IT FROM PRIOR DOE EFFORTS THAT SERVED ONLY TO IDENTIFY MANY SYMPTOMS WITHOUT IDENTIFYING THE UNDERLYING MANAGEMENT PROBLEMS. TIGER TEAM ASSESSMENTS HAVE BEEN COMPLETED AT THIRTEEN DOE SITES INCLUDING TEN FACILITIES WITHIN THE NUCLEAR WEAPONS COMPLEX. THE PROGRAM SENIOR OFFICIALS RESPONSIBLE FOR EACH FACILITY HAVE BEEN DIRECTED TO PREPARE ACTION PLANS WITHIN FOUR (4) WEEKS OF THEIR RECEIPT OF DRAFT AND FINAL TIGER TEAM REPORTS. DRAFT ACTION PLANS HAVE BEEN PREPARED FOR SIX OF THE FACILITIES. AS YOU ARE AWARE, SOME OF THESE DRAFT ACTION PLANS WERE LATE, AND NONE OF THE ACTION PLANS FOR THE WEAPONS COMPLEX FACILITIES HAVE BEEN FINALIZED. WE HAVE FOUND THAT THE DEVELOPMENT OF ACTION PLANS REQUIRES MORE TIME THAN WE ORIGINALLY SCHEDULED. THIS IS PRINCIPALLY DUE TO THE MAGNITUDE OF THE PROBLEMS BEING IDENTIFIED BY OUR TIGER TEAM REVIEWS. WE HAVE EFFORTS UNDERWAY TO ADDRESS THIS PROBLEM. THE ROOT CAUSE ANALYSIS WHICH IS SO BENEFICIAL TO THE PROCESS IS ALSO ONE OF THE MOST DIFFICULT TO ADDRESS IN THE DEVELOPMENT OF ACTION PLANS. ON THE OTHER HAND, THE FACILITIES HAVE NOT WAITED TO ADDRESS THE PROBLEMS WHICH HAVE BEEN IDENTIFIED BY THE TIGER TEAMS. IN FACT A NUMBER OF THE PROBLEMS IDENTIFIED BY THE TEAM HAVE BEEN CORRECTED BEFORE THEY LEAVE THE SITE. IN ADDITION, INTERIM ACTIONS HAVE BEEN TAKEN TO ALLEVIATE IMMEDIATE THREATS POSED BY THE PROBLEMS.

CONTRACTING INITIATIVES

MAJOR PROCUREMENT IMPROVEMENTS HAVE BEEN EFFECTED TO MOTIVATE CONTRACTOR PERFORMANCE AND MEET DEPARTMENTAL GOALS. THE AWARD FEE CONTRACTING STRUCTURES HAVE BEEN CHANGED TO EMPHASIZE ENVIRONMENT, SAFETY, AND HEALTH, WHICH NOW ACCOUNT FOR OVER HALF OF THE AWARD FEE CRITERIA IN DEFENSE PRODUCTION CONTRACTS. WE HAVE ALSO INSTITUTED A NEW CONTRACT CLAUSE THAT PROVIDES THAT FAILURE OF A CONTRACTOR TO PERFORM SATISFACTORILY IN ANY SPECIFIED AREA CAN RESULT IN THE LOSS OF THEIR AWARD FEE IN ITS ENTIRETY. ON JANUARY 26, 1990, THE DEPARTMENT ISSUED A NOTICE

OF PROPOSED RULEMAKING COVERING OUR PROFIT MAKING MANAGEMENT AND OPERATING CONTRACTORS. THE PURPOSE OF THE PROPOSED RULE WAS TO IMPROVE CONTRACTOR ACCOUNTABILITY. THE COMMENT PERIOD CLOSED ON MARCH 27, 1990. APPROXIMATELY 45 COMMENTERS RESPONDED. DOE IS IN THE PROCESS OF REVIEWING ALL OF THE COMMENTS. AFTER THIS REVIEW IS CONCLUDED WE WILL DETERMINE WHAT ADJUSTMENTS SHOULD BE MADE. TO FURTHER EMPHASIZE THE IMPORTANCE OF CONTRACTING, DOE'S PROCUREMENT OFFICE HAS BEEN ELEVATED TO A FIRST TIER ORGANIZATION AND A NEW DIRECTOR HAS BEEN APPOINTED. FINALLY, WE ARE ALSO IN THE PROCESS OF IMPROVING OUR PROJECT ACQUISITION SYSTEM TO ENSURE THAT SENIOR DEPARTMENT OFFICIALS ARE DIRECTLY INVOLVED IN ALL KEY PROJECT MANAGEMENT DECISIONS.

RESPONSIBLE NEPA STRATEGY

I AM COMMITTED TO STRICT COMPLIANCE WITH THE NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) AND HAVE DIRECTED THAT THE DEPARTMENT'S NEPA POLICY AND PRACTICES BE REVISED TO CORRECT THE OVERLY DECENTRALIZED NEPA DECISIONMAKING PROCESS, TO ENSURE MY PERSONAL INVOLVEMENT IN SIGNIFICANT NEPA DECISIONMAKING, AND TO PROVIDE FOR CLOSE COORDINATION WITH THE GOVERNORS OF THE STATES WHICH HOST DOE FACILITIES. ON FEBRUARY 5, 1990, I ISSUED A SECRETARIAL NOTICE DIRECTING THE DEPARTMENT TO MAKE THE NECESSARY CHANGES TO ACCOMPLISH THESE OBJECTIVES. EVEN BEFORE THIS, I TOOK A NUMBER OF ACTIONS WHICH EMPHASIZED THE DEPARTMENT'S COMMITMENT TO RESPONSIBLE ENVIRONMENTAL MANAGEMENT. FOR EXAMPLE, I DIRECTED THAT TWO PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENTS (PEISs) BE PREPARED CONCERNING KEY POLICY INITIATIVES OF THE DEPARTMENT. THE FIRST OF THESE PEISs WILL CONSIDER THE ENVIRONMENTAL IMPACTS ASSOCIATED WITH IMPLEMENTATION OF THE FIVE-YEAR PLAN FOR WASTE MANAGEMENT AND ENVIRONMENTAL RESTORATION; THE OTHER WILL ANALYZE THE ENVIRONMENTAL EFFECTS OF ALTERNATIVE APPROACHES TO LONG-TERM CONFIGURATION OF A MODERNIZED NUCLEAR WEAPONS COMPLEX.

PRICE-ANDERSON INITIATIVES

IN ENACTING AMENDMENTS TO THE PRICE-ANDERSON ACT, THE CONGRESS PROVIDED THE DEPARTMENT WITH THE AUTHORITY TO LEVY CIVIL PENALTIES AGAINST THE CONTRACTORS

OPERATING DOE NUCLEAR FACILITIES FOR VIOLATIONS OF APPLICABLE DOE REQUIREMENTS RELATED TO NUCLEAR SAFETY. THIS AUTHORITY PROVIDES AN IMPORTANT NEW TOOL TO ENSURE THAT SAFETY NEVER TAKES A BACK SEAT TO PRODUCTION. I HAVE SET IN MOTION SEVERAL INITIATIVES TO UTILIZE THIS ENFORCEMENT TOOL. FIRST, I RECENTLY ESTABLISHED AN OFFICE OF NUCLEAR SAFETY (ONS) REPORTING DIRECTLY TO ME WHICH I WILL DESCRIBE LATER IN MORE DETAIL. SECOND, WE ARE DEVELOPING, WITH PUBLIC INPUT, THE ENFORCEMENT POLICY TO IMPLEMENT OUR CIVIL PENALTY AUTHORITY. I HAVE ALSO ESTABLISHED A TASK FORCE TO REWRITE THE DOE SAFETY ORDERS IN THE FORM OF PROPOSED REGULATIONS TO BE ISSUED FOR PUBLIC NOTICE AND COMMENT.

DEPARTMENTAL ORGANIZATION AND MANAGEMENT ARRANGEMENTS

IN ORDER TO EFFECTIVELY AND SYSTEMATICALLY IMPLEMENT THE CHANGE IN CULTURE AND ASSURE FULL ACCOUNTABILITY ON THE PART OF LINE MANAGEMENT, I ISSUED SECRETARY OF ENERGY NOTICE 6 AND 6A. THESE DIRECTIVES SET THE ORGANIZATIONAL FOUNDATION AND PRINCIPLES FOR HOW DOE WILL CONDUCT ITS BUSINESS IN THE FUTURE. IT ESTABLISHED THE PRINCIPLE THAT LINE MANAGEMENT IS FULLY ACCOUNTABLE FOR SAFETY IN THEIR FACILITIES, THAT THERE SHOULD BE NUCLEAR SELF-ASSESSMENT OFFICES IN APPROPRIATE LINE PROGRAM ORGANIZATIONS, AND THAT THERE WILL BE SAFETY OVERSIGHT OFFICES WHICH ARE INDEPENDENT OF THE LINE ORGANIZATION AS A CHECK AND BALANCE. WE ARE WELL ALONG ON THE IMPLEMENTATION OF THIS DIRECTIVE INCLUDING APPROVAL OF INDIVIDUAL ORGANIZATIONAL ARRANGEMENTS, CLARIFICATION OF ROLES AND RESPONSIBILITIES, AND THE TRANSFER OF APPROPRIATE RESOURCES. THE MAJOR CHALLENGE WHICH WE ARE STILL FOCUSED IS THE FULL STAFFING OF THESE FUNCTIONS WITH TECHNICALLY QUALIFIED PEOPLE.

LINE MANAGEMENT OVERSIGHT OF CONTRACTORS

WE ARE STRENGTHENING THE DEPARTMENT'S DAY-TO-DAY MANAGEMENT OF THE WEAPONS COMPLEX. DOE LINE ORGANIZATIONS WILL BE FULLY RESPONSIBLE FOR THEIR ACTIVITIES, INCLUDING FIELD OPERATIONS. DOE AND CONTRACTOR LINE MANAGERS WILL BE THE FIRST LINE OF SAFETY AND ENVIRONMENTAL COMPLIANCE. I AM ESTABLISHING NUCLEAR SELF ASSESSMENT OFFICES WITHIN THE DEFENSE PROGRAMS, NUCLEAR ENERGY, ENVIRONMENTAL

RESTORATION AND WASTE MANAGEMENT, AND NEW PRODUCTION REACTORS ORGANIZATIONS TO ENSURE THAT DOE AND CONTRACTOR LINE MANAGERS ARE THE FIRST LINE OF SAFETY. WHEN THE DOE TRANSITION TOWARD CRITICAL SELF-ASSESSMENT IS COMPLETED, WE CAN BE ASSURED THAT ENVIRONMENT AND SAFETY ARE BEING INCLUDED AS AN INTEGRAL PART OF DOE'S DAILY OPERATIONS.

INTERNAL OVERSIGHT OF LINE & CONTRACTORS

IN ADDITION TO THE NUCLEAR SELF-ASSESSMENT OFFICES WITHIN LINE ORGANIZATIONS, I HAVE CREATED THE OFFICE OF NUCLEAR SAFETY (ONS) WHICH REPORTS DIRECTLY TO ME. THE EXCLUSIVE TASK OF ONS WILL BE TO PROVIDE INDEPENDENT OVERSIGHT OF THE DEPARTMENT'S NUCLEAR ACTIVITIES. IT WILL HAVE NO PROGRAMMATIC RESPONSIBILITIES OR CONNECTIONS. AN ENFORCEMENT DIVISION WILL BE FORMED WITHIN ONS TO CONDUCT INVESTIGATIONS OF ALLEGED NUCLEAR SAFETY VIOLATIONS AND TO RECOMMEND ENFORCEMENT ACTIONS TO THE DIRECTOR OF ONS AND, ULTIMATELY, TO ME. I HAVE ENHANCED THE AUTHORITIES OF THE ASSISTANT SECRETARY FOR ES&H TO ASSURE COMPLIANCE WITH APPLICABLE RULES RELATED TO ENVIRONMENTAL PROTECTION, RADIATION SAFETY, WORKER SAFETY AND HEALTH, SAFEGUARDS AND SECURITY, AND THOSE ASPECTS OF PUBLIC HEALTH AND SAFETY THAT DEAL WITH EPIDEMIOLOGY AND RADIOLOGICAL PROTECTION.

EXTERNAL OVERSIGHT OF LINE & CONTRACTORS

WE ARE WORKING HARD TO ASSURE THAT EXTERNAL OVERSIGHT IS WELCOMED WITHIN THE DEPARTMENT. THE ADVISORY COMMITTEE ON NUCLEAR FACILITY SAFETY AND THE DEFENSE NUCLEAR FACILITIES SAFETY BOARD PROVIDE EXTERNAL OVERSIGHT. I LOOK FORWARD TO THE DAY WHEN IT WILL BE HARD FOR THESE GROUPS TO FIND PROBLEMS, BECAUSE DOE'S LINE MANAGEMENT WILL HAVE ALREADY IDENTIFIED PROBLEMS AND WILL BE MOVING TO CORRECT THEM. THE ACNFS AND DNFSB ALREADY HAVE ACCESS TO REPORTS AND INFORMATION PREPARED BY DOE MANAGERS. THE DEFENSE BOARD IS REVIEWING ACTIVITIES ASSOCIATED WITH THE RESTART OF THE REACTORS AT SAVANNAH RIVER AS WELL AS THE RESUMPTION OF OPERATIONS AT ROCKY FLATS. I WILL CONSIDER CAREFULLY ANY RECOMMENDATIONS THAT MAY RESULT FROM THESE REVIEWS. THE ACNFS HAS CONDUCTED REVIEWS OF ISSUES AT THE Y-12 PLANT IN OAK RIDGE, THE STATUS OF EFFORTS ON PROBABILISTIC RISK ASSESSMENT

ON THE SAVANNAH RIVER REACTORS, AND THE PLAN FOR RESUMPTION OF OPERATIONS AT ROCKY FLATS. THE ACNFS CONDUCTED PUBLIC MEETINGS TO ADDRESS ROCKY FLATS ISSUES ON OCTOBER 11-12, 1989 IN GOLDEN, COLORADO; DECEMBER 11-12, 1989 AND FEBRUARY 20-21, 1990 IN WASHINGTON, D.C.; AND APRIL 25, 1990 IN GOLDEN, COLORADO. I WOULD LIKE TO SUBMIT FOR THE RECORD A LETTER FROM JOHN AHEARNE CONTAINING A SUMMARY OF THE ACNFS REVIEWS AND RECOMMENDATIONS FOR THE ROCKY FLATS PLANT.

SHUTDOWN AUTHORITY

WE HAVE TAKEN STEPS TO CLARIFY SHUTDOWN AUTHORITY WITHIN THE DEPARTMENT AS PART OF OUR EFFORT TO STRENGTHEN LINE MANAGEMENT'S ACCOUNTABILITY. SHUTDOWN AUTHORITY BEGINS WITH OUR CONTRACTORS. IF A CONTRACTOR FAILS TO EXERCISE ITS RESPONSIBILITY, THE AUTHORITY TO SHUT DOWN A FACILITY PROCEEDS UP THE LINE AS FOLLOWS: FROM THE SENIOR DOE FIELD OFFICE MANAGER; TO THE PROGRAM SECRETARIAL OFFICE IN DOE HEADQUARTERS; TO THE UNDER SECRETARY; AND ULTIMATELY TO ME. ANY ONE OF THESE DOE OFFICIALS CAN DIRECT THE CONTRACTOR TO SHUTDOWN FOR VIOLATION OF TECHNICAL SPECIFICATIONS DURING OPERATIONS. THE MORE LENGTHY CHAIN TO ME WOULD MOST LIKELY EVENTUATE FROM LONGER TERM MANAGEMENT PROBLEMS WHICH HAVE AGGREGATED. THE ASSISTANT SECRETARY FOR ENVIRONMENT, SAFETY AND HEALTH ALSO HAS SHUTDOWN AUTHORITY, INDEPENDENT OF THE LINE, FOR USE IN THE EVENT THAT A SERIOUS VIOLATION OF PRACTICES WHICH FALL UNDER HIS OVERSIGHT JURISDICTION OR THE LINE FAILS TO ACT APPROPRIATELY; AND NONE OF THE TOP THREE DOE OFFICIALS IS AVAILABLE.

OPERATIONAL INFORMATION REPORTING

AN IMPORTANT INGREDIENT FOR EFFECTIVE LINE MANAGEMENT IS HAVING A SYSTEM IN PLACE TO REPORT UNUSUAL OCCURRENCES AND FOLLOW-UP ACTIONS. THE EXISTING SYSTEM NEEDED A MAJOR OVERHAUL. IN A VARIETY OF ENVIRONMENT, HEALTH, SAFETY, AND SECURITY-RELATED SITUATIONS, REPORTS AVAILABLE TO TOP DEPARTMENT OF ENERGY (DOE) LINE MANAGEMENT SIMPLY DID NOT REFLECT ACTUAL SITUATIONS IN THE FIELD. AS A CONSEQUENCE, NEITHER PREVENTIVE NOR CORRECTIVE ACTIONS WERE INSTITUTED IN A TIMELY FASHION. CRISIS MANAGEMENT, AFTER THE FACT, HAD BECOME THE NORM. AN ENTIRELY NEW SYSTEM OF REPORTING, ANALYSIS, AND FOLLOW-UP WAS NEEDED TO HELP MINIMIZE UNWARRANTED SURPRISES AND MAXIMIZE OPERATIONAL EFFECTIVENESS. WE ARE

REVISING THE DOE ORDER ON OPERATIONAL REPORTING. THE REVISED ORDER WILL ESTABLISH A SINGLE COMPREHENSIVE SYSTEM FOR REPORTING AND UTILIZING OPERATIONS INFORMATION. IT WILL ADDRESS ALL ASPECTS OF OCCURRENCE REPORTING INCLUDING THRESHOLD IDENTIFICATION, NOTIFICATION, ROOT-CAUSE ANALYSES, REPORTING, FOLLOW-UP, AND CLOSE-OUT. A DRAFT ORDER HAS BEEN TRANSMITTED TO ALL DEPARTMENTAL ORGANIZATIONAL ELEMENTS AND CONTRACTORS FOR FORMAL REVIEW AND COMMENT. THE PROPOSED ORDER IS EXPECTED TO BE ISSUED IN THE NEAR FUTURE, AND WILL RESOLVE CONCERNS REGARDING PAST REPORTING PRACTICES IDENTIFIED BOTH INSIDE AND OUTSIDE THE DEPARTMENT, INCLUDING HOSE RAISED BY THE GENERAL ACCOUNTING OFFICE IN ITS DECEMBER 20, 1989 REPORT ON THE SAVANNAH RIVER REPORTING PROGRAM. THE DEPARTMENT'S FORMAL RESPONSE TO THAT GAO REPORT WAS FILED YESTERDAY.

EPIDEMIOLOGY AND HEALTH

ON MARCH 27 OF THIS YEAR I RECEIVED THE REPORT OF MY "SECRETARIAL PANEL FOR THE EVALUATION OF EPIDEMIOLOGIC RESEARCH ACTIVITIES" (SPEERA). I HAVE ACCEPTED THIS REPORT AND, ON THE SAME DAY OF ITS RECEIPT, ISSUED SIX DIRECTIVES DESIGNED TO ADDRESS EACH OF THE PANEL'S MAJOR RECOMMENDATIONS.

FIRST, I ESTABLISHED A NEW OFFICE OF HEALTH UNDER THE ASSISTANT SECRETARY FOR ENVIRONMENT, SAFETY AND HEALTH. THIS OFFICE WILL CONSOLIDATE ALL EXISTING EPIDEMIOLOGY STAFF AND RESOURCES AND CARRY OUT A COMPREHENSIVE DOE OCCUPATIONAL HEALTH PROGRAM. THIS OFFICE WILL ALSO CONDUCT A STRENGTHENED PROGRAM OF OVERSIGHT OF THE OCCUPATIONAL MEDICAL PROGRAMS OF THE DEPARTMENT'S CONTRACTORS.

SECOND, I DIRECTED THAT THE DEPARTMENT'S EPIDEMIOLOGY RESEARCH BE FOCUSSED ON A STRONG "DESCRIPTIVE" PROGRAM OF HEALTH SURVEILLANCE, STUDIES AND COMMUNICATION WITH OUTSIDE GROUPS AND RESIDENTS OF NEARBY COMMUNITIES. FOR THE FIRST TIME DOE WILL SET STANDARDIZED COLLECTION METHODS FOR EPIDEMIOLOGY DATA AND ENSURE APPROPRIATE OUTSIDE PEER REVIEW OF ITS STUDIES.

THIRD, I ASKED THE DEPARTMENT OF HEALTH AND HUMAN SERVICES (HHS) TO ASSIST IN MANAGING OUR EXTERNAL PROGRAM OF ANALYTICAL EPIDEMIOLOGY STUDIES. ALTHOUGH DOE HAS IN THE PAST CONDUCTED SOME OF THIS WORK, IT IS NOT DIRECTLY RELEVANT TO OUR

PRIMARY NEED TO ASSESS THE HEALTH OF WORKERS AND THE PUBLIC FROM ONGOING OPERATIONS. I AM PLEASED THAT HHS IS AGREEABLE TO ENTERING INTO A MEMORANDUM OF UNDERSTANDING TO CARRY THIS OUT. THOSE NEGOTIATIONS ARE UNDERWAY.

FOURTH, I DIRECTED ESTABLISHMENT OF AN ADVISORY COMMITTEE TO HELP THE ASSISTANT SECRETARY OF ENVIRONMENT, SAFETY AND HEALTH (ES&H) IN CARRYING OUT THE ES&H MISSION TO ENSURE WORKER HEALTH. I EXPECT THAT THE WORK OF THIS GROUP, TOGETHER WITH THE STRENGTHENED PEER REVIEW PROCESS MENTIONED EARLIER, WILL PLACE THE DEPARTMENT IN THE FOREFRONT OF TECHNICAL EXCELLENCE IN THE AREA OF OCCUPATIONAL HEALTH AND EPIDEMIOLOGY.

FIFTH, I DIRECTED THAT THE DEPARTMENT'S EPIDEMIOLOGIC RESEARCH COORDINATING COMMITTEE (ERCC) CONSULT ON THE DEVELOPMENT ON SUCH A PROTOCOL. FURTHER I HAVE DIRECTED THAT THE ASSISTANT SECRETARY FOR ES&H CONDUCT NEGOTIATIONS WITH STATES CONCERNING RELEASE OF EPIDEMIOLOGIC INFORMATION. IT IS VITALLY NECESSARY TO ESTABLISH A PROTOCOL GOVERNING THE RELEASE OF WORKER HEALTH AND EPIDEMIOLOGIC DATA. THIS ISSUE REQUIRES A CAREFUL BALANCE BETWEEN NEED FOR PUBLIC ACCESS TO THE DATA, AND THE NEED TO PROTECT INDIVIDUAL PRIVACY.

FINALLY, IN RECOGNITION THAT MY INITIATIVES CAN ONLY BEGIN TO ADDRESS THE TOTALITY OF THE SPEERA RECOMMENDATIONS, I REQUESTED A COMPLETE ANALYSIS FROM THE DEPARTMENT'S STAFF AND INTEND TO RESPOND TO EACH RECOMMENDATION IN A TIMELY FASHION.

OCCUPATIONAL SAFETY

PROTECTING THE HEALTH AND SAFETY OF OUR DOE WORKERS IS OF PARAMOUNT IMPORTANCE. WHEN I TOOK OFFICE I WAS VERY DISTURBED BY REPORTS THAT SAFETY PRACTICES AT OUR FACILITIES DID NOT MEET THE STANDARDS SET BY OSHA. AT MY REQUEST, SECRETARY DOLE AGREED TO PROVIDE HELP IN DETERMINING THE EXTENT OF THIS NONCOMPLIANCE. BEGINNING IN THE FALL OF 1989 OSHA INSPECTORS BEGAN ACCOMPANYING MY TIGER TEAMS, CONDUCTING THOROUGH INSPECTIONS AT SELECTED DOE FACILITIES. THREE TEAMS OF OSHA INSPECTORS SAMPLED COMPLIANCE AT THE DOE FACILITIES AT MOUND, PANTEX AND THE Y-

12 PLANT. THE RESULTS OF THEIR INSPECTIONS CONFIRMED MY FEAR THAT OUR FACILITIES WERE NOT OPERATING IN COMPLIANCE WITH OSHA STANDARDS. NEARLY 1000 VIOLATIONS - SOME SERIOUS - WERE IDENTIFIED BY OSHA AT THESE THREE FACILITIES ALONE. WHERE THESE VIOLATIONS WERE SIGNIFICANT, IMMEDIATE "FIXES" WERE IMPLEMENTED. IN ALL CASES, I HAVE DIRECTED THAT THE DEPARTMENT AND ITS CONTRACTORS IDENTIFY NONCOMPLIANCES AND IMPLEMENT CORRECTIVE ACTIONS.

THE CONCERNS AND SEVERITY OF THESE FINDINGS UNDERSCORE THE NEED TO PUT IN PLACE PERMANENT MACHINERY TO ENSURE COMPLIANCE. IN THIS RESPECT WE ARE NOW WORKING ACTIVELY WITH OSHA ON TWO FRONTS. THE FIRST IS TRAINING. DOE AND SELECTED CONTRACTOR EMPLOYEES WILL UNDERGO TRAINING AT OSHA'S TRAINING INSTITUTE IN ILLINOIS. MOREOVER, DOE PERSONNEL WILL ALSO ACCOMPANY OSHA PERSONNEL FOR ON-THE-JOB TRAINING AT WORKSITES UNDER OSHA JURISDICTION. ONE GOAL IS TO ESTABLISH A CADRE OF QUALIFIED INSPECTORS TO ENSURE OUR CONTINUING ABILITY TO OVERSEE WORKPLACE SAFETY.

SECOND, OSHA IS CONDUCTING A COMPREHENSIVE EVALUATION OF DOE'S WORKPLACE SAFETY PROGRAM. SECRETARY DOLE WILL PROVIDE A WRITTEN REPORT TO ME LATER THIS YEAR WITH RECOMMENDATIONS REGARDING THE EFFECTIVENESS OF OUR PROGRAM TO PROVIDE SAFE AND HEALTHFUL WORKING CONDITIONS OF DOE AND GOCO EMPLOYEES.

I BELIEVE THAT THESE INITIATIVES HAVE SET US ON THE RIGHT COURSE TO ACCOMPLISH OUR RESPONSIBILITY FOR PROTECTING WORKER HEALTH AND SAFETY. THIS RESPONSIBILITY CAN NOT BE LEGISLATIVELY DELEGATED OR ASSIGNED TO OTHERS. WE MUST ENSURE THAT DOE MANAGERS CARRY OUT THIS FUNCTION EFFECTIVELY.

OVERFLIGHT RESTRICTIONS

IN PREVIOUS TESTIMONY BEFORE SENATOR EXON I ADVISED THAT I WOULD LOOK INTO THE MATTER OF AIRSPACE RESTRICTIONS OVER CRITICAL DOE NUCLEAR FACILITIES. ON DECEMBER 29, 1989, DOE PROVIDED CHAIRMAN NUNN A REPORT ON THE HISTORY AND CURRENT STATUS OF THE DEPARTMENT'S AIRSPACE INITIATIVE. IN ADDITION WE BEGAN WORKING CLOSELY WITH THE FAA MANAGEMENT TO EXPAND EXISTING RESTRICTIONS AT SEVERAL SITES AND INSTITUTE NEW RESTRICTIONS AT THE REMAINING CRITICAL FACILITIES.

SO FAR WE ARE ON SCHEDULE WITH THE ESTABLISHED MILESTONES. PUBLIC HEARINGS WERE HELD FOR EACH FACILITY DURING MARCH AND APRIL. PUBLIC COMMENTS RECEIVED AT THESE HEARINGS UNIVERSALLY OPPOSED THE DOE PROPOSAL. ATTENDANCE RANGED FROM APPROXIMATELY 35 PERSONS IN OHIO TO OVER 3,000 IN AMARILLO, TEXAS. IN ADDITION, THERE HAS BEEN CONSIDERABLE CONGRESSIONAL INTEREST. MOST OF THE OPPOSITION CONCERNS THE POTENTIAL IMPACT THESE RESTRICTIONS MIGHT HAVE ON LOCAL AIRPORTS. OTHERS OPPOSED TO OUR PETITION AROUND THE COUNTRY FAILED TO SEE A NEED FOR THESE RESTRICTIONS FROM EITHER A SAFETY OR SECURITY STANDPOINT. WE STILL BELIEVE THESE RESTRICTIONS HAVE MERIT AND PROVIDE SOME ADDITIONAL REASSURANCE SO FAR AS THE SAFETY AND SECURITY OF THESE FACILITIES ARE CONCERNED.

THE NEXT STEP IN THE PROCESS IS FOR ALL PUBLIC COMMENTS TO BE SUBMITTED BY MAY 7, 1990. ALL OF THE COMMENTS SHOULD BE ADDRESSED BY SEPTEMBER AT WHICH TIME THE FAA IS TO ISSUE A NOTICE OF PROPOSED RULEMAKING. WE WOULD THEN EXPECT THE FINAL RULE TO BE ISSUED IN FEBRUARY 1991.

PLEASE BE ASSURED THAT WE ARE CONSCIENTIOUSLY WORKING THIS ISSUE WITH THE FAA AS WELL AS STATE AND LOCAL OFFICIALS AND WE WILL DO OUR BEST TO KEEP THE COMMITTEE APPRAISED OF OUR PROGRESS.

IMPLEMENTATION OF THE DEPARTMENT'S FIVE-YEAR PLAN

DOE HAS ESTABLISHED A PRECEDENT THIS PAST YEAR BY DEVELOPING WORK PLANS THAT DEMONSTRATE OUR COMMITMENT TO MANAGING NUCLEAR WASTES AND TO RESTORING THE ENVIRONMENT. MY FIVE-YEAR PLAN PROVIDES FOR CLEANING UP THE ENVIRONMENT, FOR COMPLYING WITH ENVIRONMENTAL REQUIREMENTS, AND FOR FINDING PERMANENT SOLUTIONS TO MANAGING HAZARDOUS AND RADIOACTIVE WASTES. WE DEVELOPED THIS PLAN WITH BROAD STATE AND PUBLIC PARTICIPATION. I HAVE ESTABLISHED THE FIRST PLAN FOR THE RESEARCH NEEDED TO DEVELOP AND DEMONSTRATE NEW TECHNOLOGIES SO THAT WE STOP POSTPONING THE SOLUTION TO THESE PROBLEMS FOR FUTURE GENERATIONS.

WHILE WE HAVE LEARNED A LOT OVER THE PAST YEAR, MY FIRST FIVE-YEAR PLAN TELLS US THAT WE HAVE SERIOUS PROBLEMS TO OVERCOME. THE CURRENT PLAN IDENTIFIES SEVERE

LIMITS IN TODAY'S TECHNOLOGY. DOE MAY HAVE AS MANY AS 4,000 SEPARATE LOCATIONS, INCLUDING SPILL SITES, TO CLEAN UP. WE NEED TO UNDERSTAND AND APPLY THE LESSONS-LEARNED BY EPA FROM 10 YEARS OF EXPERIENCE IN ADMINISTERING ITS SUPERFUND PROGRAM TO OUR OWN CLEANUP ACTIVITIES. WE STILL DON'T KNOW ALL WE NEED TO KNOW ABOUT THE CONTAMINANTS THAT MUST BE EXTRACTED, TREATED, AND DISPOSED OF. DOE WILL BE DRILLING 1,500 NEW MONITORING WELLS THIS YEAR AS PART OF ITS REMEDIAL INVESTIGATIONS, YET WE STILL DON'T KNOW WHETHER THE RISK POSED BY THESE ACTIONS ARE COMMENSURATE WITH THE RISK OF FURTHER SPREADING THESE CONTAMINANTS AS A RESULT OF OUR SAMPLING. WE LACK THE BASIC CAPABILITY IN THIS COUNTRY TO ANALYZE THE THOUSANDS OF SAMPLES FROM THESE REMEDIAL INVESTIGATIONS BECAUSE THERE ARE ONLY 6 LABORATORIES IN THIS COUNTRY WITH THE CAPABILITY TO ANALYZE MIXED WASTES, AND ONLY 4 OF THESE ARE CERTIFIED BY EPA TO OPERATE TODAY. TECHNOLOGY IS ESSENTIAL TO SOLVING COMPLEX PROBLEMS SUCH AS THIS, AND HIGH-TECHNOLOGY REQUIRES HIGHLY TRAINED PERSONNEL.

THE GOOD NEWS IS THAT THE CLEAR, FOCUSED DIRECTION PROVIDED BY MY FIVE-YEAR PLAN PROVIDES THE FRAMEWORK FROM WHICH DOE CAN FINALLY BEGIN TO APPROACH ITS ENVIRONMENTAL RESPONSIBILITIES IN A SYSTEMATIC, SCIENTIFICALLY-BASED MANNER. I CONSOLIDATED RESPONSIBILITY FOR ENVIRONMENTAL RESTORATION AND WASTE MANAGEMENT ACTIVITIES INTO A NEW HEADQUARTERS ORGANIZATION AND APPOINTED LEO P. DUFFY AS THIS ORGANIZATION'S FIRST DIRECTOR. I AM WORKING TO ELEVATE THIS OFFICE TO THE ASSISTANT SECRETARY LEVEL WITHIN DOE.

I EXPECT TO SEEK PUBLIC REVIEW OF THE FIRST ANNUAL UPDATE OF THE FIVE-YEAR PLAN IN LATE MAY. I TOLD CONGRESS LAST YEAR THAT IT WILL TAKE UNTIL THE FY 1992 BUDGET REQUEST BEFORE I CAN VALIDATE THE FIVE-YEAR PLAN AND THE BUDGET. OVER THE NEXT YEAR, I WILL BE WORKING TO DO A BETTER JOB OF VALIDATING PROGRAM PLANS AND COSTS. TO TAKE ADVANTAGE OF THEIR SUPERFUND EXPERIENCE, WE WILL UTILIZE THE ARMY CORPS OF ENGINEERS TO INDEPENDENTLY VERIFY THE PROJECT PLANS AND COSTS FOR REMEDIAL INVESTIGATIONS AND CLEANUP ACTIVITIES. THIS WILL HELP ME TO BETTER ASSESS THE JOB WE ARE DOING AND WILL HELP ME TO ENSURE THAT WE ARE RUNNING A "SUCCESS-ORIENTED" ENTERPRISE. PERHAPS AS IMPORTANT, IT WILL HELP ME TO ENSURE THAT EVERY DOLLAR WE EARMARK FOR CLEANUP IS WELL-PLANNED AND THAT IT

MAKES SENSE. CAREFUL VALIDATION OF PROGRAM CONTENT AND COST IS ESSENTIAL TO ASSURING LONG-TERM COMMITMENT BY CONGRESS TO FUND CLEANUP ACTIVITIES.

ADMINISTRATOR REILLY'S RECENT MANAGEMENT REVIEW OF THE SUPERFUND PROGRAM NOTED PUBLIC AND CONGRESSIONAL FRUSTRATION AT THE PACE OF EPA'S PROGRESS. THE CONSEQUENCE OF EPA'S EARLY MANAGEMENT OF SUPERFUND HAS DELAYED EXPECTED PROGRESS ON SOLVING THE REAL DILEMMA -- HOW TO REDUCE ENVIRONMENTAL RISKS FROM A GROWING LIST OF SITES PRESENTING EVER NEW COMPLEXITIES, IN A SITUATION CHARACTERIZED BY INCOMPLETE KNOWLEDGE, IMMATURE TECHNOLOGY, AND RELENTLESS PRESSURE ON A LIMITED POOL OF RESOURCES. I WANT TO USE THE LESSONS OF SUPERFUND SO THAT I CAN DO THE JOB RIGHT AND THAT I CAN TELL YOU THAT EVERY CLEANUP DOLLAR IS WELL SPENT.

SUCCESS IN REDIRECTING THE WASTE ISOLATION PILOT PLANT (WIPP) PROJECT

I HAVE PLACED THE WIPP PROJECT ON A PATH WHERE OUR CRITICS CAN UNDERSTAND WHAT WE INTEND TO ACCOMPLISH, HOW WE PLAN TO DO IT, AND WHAT WE EXPECT TO GET FROM IT. THAT'S A SHARP DEPARTURE FROM THE SITUATION I INHERITED. THE DEPARTMENT RECENTLY PUBLISHED ITS SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT AND I AM PRESENTLY REVIEWING THE PROPOSED RECORD OF DECISION. IN JUNE, I INTEND TO ANNOUNCE THE STATUS OF WIPP'S READINESS TO RECEIVE WASTE FOR THE TESTING PROGRAM. I WILL NOT MAKE A FINAL DECISION, HOWEVER, UNTIL I AM CONFIDENT THAT THE PREOPERATIONAL ACTIVITIES IDENTIFIED IN MY DECISION PLAN HAVE BEEN COMPLETED. I AM PLEASED, THOUGH, THAT EPA HAS RECENTLY REACHED A PRELIMINARY DETERMINATION TO GRANT WIPP A NO-MIGRATION VARIANCE, AND ITS' BELIEF THAT THE WIPP IS A PROMISING SITE FOR A PERMANENT MIXED-WASTE REPOSITORY. THE DEPARTMENT HAS SUBMITTED LEGISLATION TO PERMANENTLY WITHDRAW LAND FROM THE PUBLIC DOMAIN TO OPERATE WIPP AND I TESTIFIED ON APRIL 3 BEFORE THE SENATE COMMITTEE ON ENERGY AND NATURAL RESOURCES ON THE NEED FOR THE SENATE TO ENACT THIS ADMINISTRATION PROPOSAL.

SAVANNAH RIVER RESTART

THE SAVANNAH RIVER REACTORS HAVE BEEN IN EXTENDED OUTAGE SINCE AUGUST OF 1988 TO PROVIDE NEEDED IMPROVEMENTS TO REACTOR HARDWARE, PROCEDURES, TRAINING,

MANAGEMENT SYSTEMS AND PRACTICES, AND MAINTENANCE, WITH SPECIAL EMPHASIS ON IMPROVING HUMAN PERFORMANCE THROUGHOUT THE SYSTEM. CORRECTIVE ACTIONS ARE WELL UNDERWAY AND I WILL SHORTLY ANNOUNCE THE RESTART SCHEDULE.

ROCKY FLATS RESUMPTION & BUILDING 371

AT ROCKY FLATS, PLUTONIUM OPERATIONS WERE SUSPENDED IN EARLY DECEMBER DURING THE SEMI-ANNUAL NUCLEAR MATERIALS INVENTORY. WE HAVE EXTENDED THE SUSPENSION OF OPERATIONS TO PERMIT EG&G, THE NEW CONTRACTOR, TO INSTALL ITS OWN MANAGEMENT TEAM, GAIN A COMPREHENSIVE UNDERSTANDING OF PLANT OPERATIONS, IMPLEMENT SEVERAL CHANGES IN TERMS OF FORMALITY AND DISCIPLINE OF OPERATIONS, AND INCREASE THE MARGIN OF SAFETY IN PLUTONIUM OPERATIONS. THESE ACTIVITIES ARE BEING ACTIVELY PURSUED AND I EXPECT TO ANNOUNCE PLANS FOR NORMALIZATION OF OPERATIONS IN ABOUT A MONTH.

AT THIS TIME, THERE DOES NOT SEEM TO BE ANY ALTERNATIVE FOR THE NATION OTHER THAN KEEPING ROCKY FLATS ONLINE TO DEAL WITH WARHEAD MANAGEMENT. THE PROPOSED PLUTONIUM RECOVERY MODIFICATION PROJECT, BUILDING 371, IS DESIGNED TO REPLACE OUTDATED FACILITIES WITH A MODERN, RELIABLE PROCESSING CAPABILITY. BUILDING 371 WILL SIGNIFICANTLY REDUCE THE RADIATION EXPOSURE TO OUR WORKERS, REDUCE WASTE GENERATION, AND HELP ELIMINATE BACKLOGGED RESIDUES. IT IS NEEDED TO GIVE US THE CAPABILITY TO EVENTUALLY CLOSE OUT PLUTONIUM OPERATIONS AT ROCKY FLATS AND DO THE ENVIRONMENTAL RESTORATION WORK NEEDED TO BRING THE SITE BACK TO AN ACCEPTABLE LEVEL. AN ENVIRONMENTAL IMPACT STATEMENT WILL BE PREPARED FOR BUILDING 371 BEFORE THE CONSTRUCTION BEGINS ON THE PRMP AND A SAFETY ANALYSIS REPORT WILL BE COMPLETED AND REVIEWED BY ME BEFORE THE FACILITY IS ALLOWED TO OPERATE.

NEW PRODUCTION REACTORS

FUTURE TRITIUM REQUIREMENTS CANNOT BE MET INDEFINITELY WITH THE EXISTING PRODUCTION REACTORS AT THE SAVANNAH RIVER SITE IN SPITE OF THE EXTENSIVE UPGRADES CURRENTLY UNDERWAY. THE DEPARTMENT IS WORKING ON THE DESIGN AND CONSTRUCTION OF NEW PRODUCTION REACTORS.

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TWO PREFERRED REACTOR TECHNOLOGIES AND SITES HAVE BEEN IDENTIFIED: A HEAVY WATER REACTOR AT THE SAVANNAH RIVER SITE AND A MODULAR HIGH TEMPERATURE GAS-COOLED REACTOR PLANT AT THE IDAHO NATIONAL ENGINEERING LABORATORY. AS A CONTINGENCY, LIGHT WATER REACTOR TRITIUM TARGET DEVELOPMENT WILL BE PURSUED. WE ARE PROCEEDING ON AN URGENT SCHEDULE WITH PREPARATION OF AN ENVIRONMENTAL IMPACT STATEMENT IN PARALLEL WITH CONFIRMATORY DEVELOPMENT AND PRELIMINARY DESIGN. THESE ACTIONS WILL PROVIDE THE DATA FOR ME TO MAKE SOUND CHOICES ABOUT THE PREFERRED TECHNOLOGIES AND SITES FOR THE RECORD OF DECISION AT THE END OF 1991.

THE NEW PRODUCTION REACTORS PROGRAM IS ON SCHEDULE AND PROCEEDING WELL. OUR CURRENT SCHEDULE CALLS FOR HAVING NEW CAPACITY AVAILABLE IN LATE 1999.

COMPLEX MODERNIZATION

MANY OF THE KEY FACILITIES IN THE DEFENSE PRODUCTION COMPLEX WERE BUILT DURING THE 1950'S AND EARLY 1960'S, AT A TIME OF LESS STRINGENT ENVIRONMENTAL AND SAFETY REQUIREMENTS. CONTINUED OPERATION OF FACILITIES THAT WERE DESIGNED AND BUILT MORE THAN 30 YEARS AGO HAS RESULTED IN A PRESSING NEED FOR OPERATIONAL IMPROVEMENTS AND A BACKLOG OF REQUIRED MAINTENANCE UPGRADES. WE, AS A NATION, CAN NO LONGER AFFORD TO WAIT TO ADDRESS THESE NEEDS IN HOPE THAT FUTURE GENERATIONS WILL DO SO. WE MUST BEGIN TO MODERNIZE THE NUCLEAR WEAPONS COMPLEX.

THIS COMMITTEE HAS BEEN MOST HELPFUL IN SUPPORTING OUR NEED TO MODERNIZE. THE CONGRESSIONALLY DIRECTED STUDY INDICATED THE NEED FOR A NUMBER OF SPECIFIC MAJOR IMPROVEMENTS. I, HOWEVER, FELT THE STUDY FAILED TO ADEQUATELY ADDRESS RECENTLY IDENTIFIED SERIOUS PROBLEMS AND CONTAINED QUESTIONABLE ASSUMPTIONS WHEN REVIEWED AGAINST TODAY'S STANDARDS. TO DEAL WITH THESE SHORTCOMINGS, IN THE SECRETARY OF ENERGY NOTICE (SEN-12), I DIRECTED THE FORMATION OF A MODERNIZATION REVIEW COMMITTEE, HEADED BY UNDER SECRETARY JOHN TUCK, TO REASSESS THE EARLIER MODERNIZATION REPORT. DOE WILL ALSO PREPARE A PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT REGARDING THE MODERNIZATION OF THE NUCLEAR WEAPONS COMPLEX IN ACCORDANCE WITH THE NATIONAL ENVIRONMENTAL POLICY ACT TO ADDRESS THE ENVIRONMENTAL ISSUES RELATED TO LONG TERM PLANS TO RENOVATE THE AGING NUCLEAR

WEAPONS COMPLEX. I EXPECT TO ADDRESS THE FIRST OF THE MOST PRESSING OF THE MODERNIZATION NEEDS IN THE FY 1992 BUDGET.

SKILLED POSITIONS

WE CONTINUE TO EXPERIENCE A CRITICAL SHORTAGE OF SKILLED AND TECHNICALLY COMPETENT FEDERAL MANAGERS. LAST YEAR, WE IDENTIFIED MEASURES TO HELP CORRECT THIS PROBLEM. THE SENATE SUPPORTED OUR EFFORTS, UNFORTUNATELY THE HOUSE DID NOT. THIS YEAR, WE ARE WORKING CLOSELY WITH THE OFFICE OF PERSONNEL MANAGEMENT AND THE OFFICE OF MANAGEMENT AND BUDGET TO DEVELOP LEGISLATION ON A GOVERNMENT-WIDE BASIS TO ESTABLISH A SPECIAL SALARY STRUCTURE FOR A LIMITED NUMBER OF VERY CRITICAL TECHNICAL POSITIONS AND TO EXEMPT A NUMBER OF INDIVIDUALS FROM THE STRICTURES ON MILITARY AND CIVILIAN RETIREMENT BENEFITS OF THE "DUAL COMPENSATION" LAWS. THIS MUST BE DONE SO THAT WE MAY ATTRACT HIGHLY QUALIFIED INDIVIDUALS TO SERVICE WITH THE DEPARTMENT OF ENERGY. THE INDIVIDUALS WE ARE TRYING TO ATTRACT TO DOE ARE EITHER MILITARY OR CIVILIAN RETIREES WITH HIGHLY SPECIALIZED SKILLS. WE CONTINUE TO NEED THESE TALENTS TO HELP US SOLVE THE PROBLEMS FACED BY THE WEAPONS COMPLEX. I WANT TO THANK YOU MR. CHAIRMAN AND MEMBERS OF THE COMMITTEE FOR THE ASSISTANCE YOU PROVIDED LAST YEAR IN EFFORTS TO SECURE THE SPECIAL PROVISIONS FOR CRITICAL TECHNICAL POSITIONS. YOUR EFFORTS ARE GREATLY APPRECIATED. WE HOPE THAT YOU WILL SUPPORT US AGAIN THIS YEAR AND I URGE THE COMMITTEE TO CONTINUTE TO HELP ME OBTAIN RELIEF FOR A SELECTED NUMBER OF SKILLED POSITIONS SO I CAN DO THE JOB YOU EXPECT OF ME. YOU CAN DO THIS MOST EFFECTIVELY BY LENDING YOUR ACTIVE SUPPORT TO PROMPT ACTION ON THE ADMINISTRATION'S PROPOSAL WHEN IT IS SUBMITTED TO THE CONGRESS.

IN ADDITION TO THE STRONG TECHNICAL AND MANAGEMENT TALENT, DEFENSE PROGRAMS HAS A CRITICAL NEED FOR STRONG LEADERSHIP. DEFENSE PROGRAMS HAS OPERATED FOR NEARLY THREE YEARS NOW WITHOUT A CONFIRMED ASSISTANT SECRETARY. TO DO THE JOB RIGHT IN THE FUTURE, I NEED TO HAVE A CONFIRMED ASSISTANT SECRETARY. AS YOU ARE AWARE, VIC STELLO WITHDREW HIS NOMINATION FOR THIS POSITION LAST WEEK AND WE ARE WORKING TO IDENTIFY ANOTHER CANDIDATE.

FINALLY, TO DO THE JOB RIGHT, TO MOVE AHEAD, TO ACCOMPLISH OUR GOALS, THE DEPARTMENT IS REQUESTING $10,954 MILLION FOR THE DOE NATIONAL SECURITY PROGRAMS FOR FY 1991 TO PROVIDE THE REQUIRED OPERATIONS, EQUIPMENT, AND CONSTRUCTION TO MEET OUR MISSIONS. THIS COMBINATION PROVIDES FOR IMPROVED CONDUCT OF OPERATIONS, AND THE NECESSARY HARDWARE FIXES TO START US ON THE ROAD TO OPERATIONAL EXCELLENCE. I WILL APPEAR BEFORE YOU LATER THIS MONTH TO DISCUSS THE SPECIFICS OF THAT FUNDING REQUEST.

SUMMARY

MR. CHAIRMAN, I BELIEVE WE HAVE MADE CONSIDERABLE PROGRESS THIS YEAR IN TURNING THE DEPARTMENT OF ENERGY AROUND AND SETTING A PROPER COURSE FOR THE FUTURE. WE STILL HAVE QUITE A WAYS TO GO, AND WE DEPEND ON YOUR CONTINUED SUPPORT TO GET IT ALL DONE. I LOOK FORWARD TO WORKING WITH YOU TO SECURE YOUR SUPPORT, INCLUDING THE NECESSARY RESOURCES TO CARRY OUT THE DEPARTMENT'S IMPORTANT MISSIONS WITHIN THE NEWLY-ESTABLISHED FRAMEWORK. AT THIS TIME I WILL BE PLEASED TO ANSWER ANY QUESTIONS THAT YOU MIGHT HAVE.

Advisory Committee on Nuclear Facility Safety
to the
United States Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585

April 20, 1990

Honorable James D. Watkins
Secretary of Energy
1000 Independence Avenue, S.W.
Washington, D.C. 20585

Dear Admiral Watkins:

I am writing to provide you with a brief status report on the efforts of your Advisory Committee on Nuclear Facility Safety to review the developments at Rocky Flats and, in particular, the plan for resumption of Rocky Flats Plant (RFP) operations.

Since our report to you last November, the Committee received a briefing from EG&G on their plan for resumption of operations at open ACNFS meetings in Washington on December 11-12, 1989 and February 20-21, 1990. At the February meeting EG&G informed the Committee that they are not as far along as they thought they would be last December. We formed a Rocky Flats Subcommittee that has been meeting with DOE and EG&G management to develop the information base needed by the full Committee for assessing the readiness of EG&G to restart the plant in the near future. A list of ACNFS public meetings dealing with the RFP is shown on attachment 1. Attachment 2 lists ACNFS recommendations on a variety of Rocky Flats issues. We have been pleased by your and the Department's positive response to our recommendations. Attachment 3 lists reports we used or are currently reviewing in connection with Rocky Flats issues and plans.

In the interest of keeping the public informed, the Committee staff has sent to Public Document Rooms a copy of ACNFS meeting transcripts and our reports to you and the Congress.

The Committee will hold a public meeting in Golden, Colorado on April 25, 1990, to discuss the EG&G Resumption Plan and other related RFF issues. If enough information is available, we plan to discuss our conclusions at the May Committee meeting and provide you with our recommendations shortly thereafter.

I would be pleased to discuss this information and our plans at your convenience.

Sincerely,

John F. Ahearne

John F. Ahearne
Chairman

Attachments

Attachment 1

ACNFS Public Meetings Which Addressed Rocky Flats Issues
(Since September 1989)

MEETING DATE	SITE	TYPE	DATE OF REPORTS TO THE SECRETARY
October 11-12, 1989	Golden, CO	Public	November 30, 1989 *
December 11-12, 1989	Washington, D. C.	Public	January 29, 1990 *
February 20-21, 1990	Washington, D.C.	Public	March 28, 1990 *
April 25, 1990 **	Golden, CO	Public	To Be Determined

* Available at DOE Public Document Rooms (PDR)
Transcripts of open ACNFS meetings also in PDR

** Planned Public Meeting

Attachment 2

ACNFS RECOMMENDATIONS REGARDING THE ROCKY FLATS PLANT

In its letter to Secretary Watkins of November 30, 1989, the ACNFS made the following recommendations for improving the safety and environmental aspects of operations at Rocky Flats:

1. "We recommend the DOE and the contractor continue to use PRA results to reduce vulnerabilities in design and operation."

2. "The Mattson study [re Pu accumulation in ducts] recommended further analysis of human errors and component reliability, including common mode failures. We support these recommendations."

3. "We see many symptoms which lead us to believe that the contractor-to-contractor transition at RF will have many of the problems currently being experienced at Savannah River. EG&G will need to introduce new attitudes and new practices. A safety culture must be established and the operating staff must assume the responsibility of making the facility a professional place - it is not today."

4. " ...the overall hydrology of the site and the relationship among the many sources of pollution are not well understood. ...The proposed blocking actions to put physical barriers in place to control the spread of groundwater contamination from contaminated on-site soil appear to be sensible. ...it is also clear that the management has not integrated environmental issues into the overall management plan."

5. "Unless prevented by a non-waivable regulatory constraint, supercompacter construction should resume and at an accelerated pace. Work to obtain the necessary permits should proceed in parallel."

6. "This laxness of operation [regarding the changing of anti-contamination clothing]...obviously has the approval of the highest level of management. This practice should be halted. Furthermore, a change to a more conservative and professional set of practices would be an effective way to signal that the old way of doing business cannot continue."

7. "Based on data provided to the Committee on the magnitude of past Pu releases, it appears unlikely that measurable health effects would have occurred among members of the community. Nevertheless, to provide an adequate basis and to alleviate public concerns, we believe the DOE should proceed with epidemiological studies in the area. The DOE should consider funding an independent organization, in addition to the state, to take air and soil measurements at and near RF. Such an organization should be chosen by a group consisting of representatives of DOE, state agencies, and the local opposition groups."

8. "The DOE should open at least one public document room (PDR) where the public can have ready access, not at the plant, where the PDR is currently located. The DOE should ensure the PDR is stocked with the pertinent unclassified documents and should add new documents upon their release. In stocking the PDR, the DOE should err on the side of completeness."

9. "The emergency management system should be examined to ensure the assignment of who will be in charge is explicit and understood at all times."

   The ACNFS expanded on this recommendation in its January 29, 1990 letter to Secretary Watkins when it said, "We believe that responsibility for the management of a site emergency should be left unambiguously to the plant management, with DOE as an interested witness. Clearly there may be times when the public interest requires that the Department relieve the plant management of this responsibility, in which case the change of command should be declared and unambiguous --- We strongly recommend that it be made clear to all concerned DOE and contractor personnel that it is DOE policy that a site manager has clear authority to make timely off-site notifications when necessary."

10. "The DOE line organization has been authorized to hire additional staff to improve contractor oversight. ...The DOE should develop a plan to ensure qualified people are hired, properly trained, and deployed where they are most needed."

In its March 28, 1990 letter to Secretary Watkins, the ACNFS "expressed concerns about:

- the standards to be used for the resumption of operations,
- The criteria for determining which issues are restart issues and how they are met, and
- whether EG&G can continue to attract high-level management attention from the parent company, necessary to keep the plant running well."

ROCKY FLATS PLANT DOCUMENTS ATTACHMENT 3

001- U.S. Department of Energy, Headquarters, Office of Nuclear Safety, Technical Safety Appraisal of Building 707, Rocky Flats Plant, DOE/EH-0021, September 1986.

002- U.S. Department of Energy, Headquarters, Office of Nuclear Safety, Technical Safety Appraisal, Rocky Flats Plant, DOE/EH-0032, January 1987.

003- U.S. Department of Energy, Office of Safety, Helath and Quality Assurance, Restart Strategy for Rocky Flats Building 771, Memorandum from R.W. Starostecki to B.G. Twining, December 5, 1988.

004- U.S. Department of Energy, Office of Safety, Health and Quality Assurance, Technical Safety Appraisal of the Rocky Flats Plant, DOE/EH-0081, Memorandum from R.W. Starostecki to B.G. Twining, January 27, 1989.

005- Rockwell International, Building 707 Final Safety Analysis Report, September 26, 1988.

006- Rockwell International, Building 771 Final Safety Analysis Report, September 1988.

007- Rockwell International, Building 774 Final Safety Analysis Report, September 1988.

008- Rockwell International, Building 371 Final Safety Analysis Report Volume 1, July 15, 1981.

009- Rockwell International, Building 559, Final Safety Analysis Report, June 1987.

010- Rockwell International, Final Safety Analysis Report, Building 776/777, June 1987.

011- Rockwell International, Final Safety Analysis Report, Building 779, June 1987.

012- Rockwell International, Pondcrete Overview, Presentation to the Advisory Committee on Nuclear Facility Safety, March 2, 1989.

013- Rockwell International, Safety Self-Improvement Program, March 1, 1989.

014- U.S. Department of Energy, Albuquerque Operations Office, Response to Question by the Ahearne Committee on the Rocky Flats Plant Technical Safety Appraisal (TSA) Report, Memorandum from D.L Krenz to P.D. Grimm , March 13, 1989.

015- U.S. Department of Energy, Albuquerque Operations Office, Rocky Flats Safety Perforamce Review-Technical Accuracy of Draft

Safety Performance Review Report, Memorandum from A.E. Whiteman to W.R. Kornack, March 24, 1989.

016- Rockwell International, Building 371 PROVE-Safety Assessment (Revised Feb. 1988), November 1987.

017- Citizens Organizations, Environmental Issues on Rocky Flats, March 1989.

018- U.S. Department of Energy Tiger Team, Assessment of Environmental Conditions at the Rocky Flats Plant, August 1989.

019- Rockwell International, Management Plan for Rocky Flats Plant Operation Improvements, August 11, 1989.

020- Rockwell International, Proposals for Rocky Flats Plant Operations Improvements, August 11,1989.

021- U.S. Department of Energy, Special Assignment Environmental, Assessment of Environmental Conditions at the Rocky Flats, Draft, August 1989.

022- Department of Energy, An Assessment of Criticality Safety, SCIE-DOE-201-89, July - September 1989.

023- Department of Energy, Federal Facility Compliance Agreement and Compliance Order on Consent between EPA-DOE-State Colorado, September 19, 1989.

024- Department of Energy, "Agreement In Principle, June 28, 1989.

025- Department of Energy, Extracts from the FBI Affidavit for the June 6, 1989 raid, June 6, 1989.

026- Department of Energy Tiger Team, Assessment of Operational Safety in Three Rocky Flats Buildings, Memorandum from R.Starostecki to E.Goldberg, Undated.

027- Rockwell International, Response to December 1988 TSA & EH's Comments on the Action Plan., Undated.

028- Rockwell International, Manual on Health, Safety and Environment, Undated.

029- EG&G Rocky Flats, Rocky Flats Plan for Phased Resumption of Plutonium Operations, March 5, 1990.

030- Rocky Flats Environmental Monitoring Council, Issue #4, January 1990.

031- Rockwell International, Rocky Flats Risk Assessment Guide, March 1985.

032- Rocky Flats Environmental Monitoring Council, Issue #5, February 1990.

033- Rockwell International, Rocky Flats Site Environmental Report for 1988, 1988.

034- General Accounting Office, Nuclear Waste-Transuranic Waste Stroage Limitations at Rocky Flats Plant, GAO/RCED-90-109, February 1990.

035- EG&G Rocky Flats, Supercompactor and Related Reports: a.) Environmental Assessment(3/22/90) b.) RFP 3555 (9/30/83) c.) RFP 4093 (2/04/87) d.) RFP 4201 (2/88),.

036- EG&G Rocky Flats, Selected UORs:a.)Building 444 Exhaust Duct Fire(11/15/89) b.) Building 881 Annex Filter Plenum Contamination(2/14/90) c.) Building 371 Utilities HVAC Occurrence (12/18/89) Mem/Ltr[Date[Key[RFP,.

037- U.S. Department of Energy, Technical Review:Rocky Flats Interim Plant Safety Analysis Report, and Building 707,771 and 776/777 Safety Analysis Reports (DOE/EH draft), July 1988.

038- Los Alamos Technical Associates, "Realistic Evaluation of Consequences from Natural Phenomena Events":for Building 707-RFO 06360 (01); for Building 776/777-RFO 06360 (02); for Building 771, 774, 779-RFO 06360 (03): for Building 559, 886, 991, RFO-06360 (04), 1988-1990.

039- Rocky Flats Environmental Monitoring Council, Guide to Rocky Flats Oversight Organizations, March 1990.

040- EG&G Rocky Flats, Rocky Flats Operational Improvement Plan, April 4, 1990 Draft.

041- Rocky Flats Environmental Monitoring Council, First Policy Report, February 1990.

FUNDS FOR CLEANUP

Senator EXON. Mr. Secretary, thank you very much. We will start our first 5-minute round of questioning, and I will begin. You are fully aware of the fact that in previous years this committee has provided additional money for cleanup over and above that recommended by the administration, not as much as we thought was necessary, but as much as we could provide given the constraints of the budget. We certainly have new budget constraints at this time. With regard to cleanup, have you had any difficulties in getting the Office of Management and Budget to agree with any of the recommendations that you have made in this area? Or, to put the question another way, have you been able to obtain approval from the Office of Management and Budget for all of the dollars that you, as Secretary, felt could be used constructively to better attack the cleanup problem?

Secretary WATKINS. Mr. Chairman, with the knowledge that we had going into preparation of the 1991 budget, the answer is yes. As we have new discoveries taking place along the lines I mentioned during my testimony, I think the answer is there probably needs to be some kind of an upward adjustment in 1991. But I am not ready to give you that now until we get our new 5-year plan on the street and can assess the legitimate new discoveries coming in.

We have a lot of pleas coming in from our field offices that significantly expand what they originally gave us for last year's 5-year plan. We are going through a review of that right now, and it looks like there is probably some legitimacy to a small percentage of it. But much of it is not within the context, in my opinion, at this point of time, of a major change in the 1991 budget. We hope to have that 5-year plan out, comments on it, and refined, and perhaps we will have to come back to you in 1991, but I do not think so at this point. We are not going to be severely hurt in 1991.

When we have a chance to prepare the 1992 budget, it will probably show a ramp increase, without any question. But it is very important that we manage these dollars right. Just throwing dollars at waste is not going to be the answer. We have to have a program that surrounds each one of these. Each particular contaminant has to be characterized. We have to know where the plumes are migrating. We have to know what kind of technology we can apply. And this takes time. Each one is almost a program in itself. We have some 4,000 contaminated sites, with all different kinds of toxics and so forth. So it is a complex issue and needs some time to be worked.

We believe that what is in the 1991 budget is fair. We were supported by the OMB and the President specifically. I appeared before the President and the cabinet before the budget came in, and I made this plea that we move aggressively to ensure we are in compliance with all of our emerging agreements with the States. We were treated fairly.

There was about a $142 million reduction in our request, but frankly that was a fact of life, a budgetary thing from slippages in our inability to manage the dollars we were given. They were legitimate cuts by the budgeteers against us. But that is minor compared to the $2.9 billion that is going into the defense complex environmental restoration and waste management program.

Senator EXON. Of that $142 million, are you telling us that you thought that the saving was in order because you did not think you were in place to use that constructively?

Secretary WATKINS. Yes. They picked away at our program and said we can see that you are not going to be able to use those dollars at the rate that you are going to ask for expenditure in 1991, and we said, you are probably right. That is a typical budget scrub, and I do not think there was anything arbitrary in the decision.

Senator EXON. Given the seriousness of this situation, I am disappointed to know that we have not been able to move speedily enough on our plans and programming so that we did not and could not fully use all of the money designed for cleanup. That remains a haunting problem to me.

WIPP

What is the situation as of today with the New Mexico facility that we have been very much concerned about for a long time?

Secretary WATKINS. This is where we stand on the Waste Isolation Pilot Plant, Mr. Chairman. We are in the final stages now of completing the last of 26 issues that had to be resolved in the integrated WIPP plan that first came out last fall. Prior to that time

there was no WIPP plan—there was certainly no integrated WIPP plan. Today we have a handful of items left to resolve and we have come to Congress with a requested piece of legislation for legislative land withdrawal that basically itemizes all the remaining items left to be accomplished. I have said that in June I will be so near to resolution on those items, except for two, that I will put out a proposed WIPP start-up date for research, pending final resolution of two items, one of which is legislative land withdrawal which I endorse. It would allow for some State participation by Members of Congress from the delegation of New Mexico that are interested to work out the kinds of things that are good for the State.

There are unresolved issues concerning payments in lieu of taxes, business incentives, and money for roads that are at dispute. These are not primarily DOE responsibilities. In fact, there are some dollars already appropriated under the DOE budget last year that need to be freed up by Congress. Legislative land withdrawal is very critical.

Senator Domenici has sent us a list of comments on our bill which he does not like. We are responding and I believe we can answer every single point he raises.

We need land withdrawal by October 1, before Congress adjourns, or we will then delay it for no other than administrative reasons. It may well be that I will have to seek the administrative land withdrawal under those circumstances. I do not think administrative withdrawal is a good idea. We have gone through hearings on that. It is not a process that brings the State sufficiently into the decision, and I think they should be allowed to work with us and work with Congress in seeing that legislation is properly prepared. So that is very key.

The second unresolved issue is the very complex one of obtaining a no-migration certification. We have the first statement out on the street by the EPA, as I mentioned in my statement. That is very encouraging, but we have to go through the public comment period, and we have to resolve those comments. There could well be thousands of comments.

We are allowing ourselves sufficient time to resolve the issue but we are still looking at somewhere around October 1, or November 1, if all goes well, to be able to overcome every single barrier that has been put up. We have to resolve all issues with every one of the five or six oversight groups, the State commissions, the blue ribbon panels, the National Academy of Sciences—all the people that have looked into this. We will be scientifically sound and ready to go with a very modest amount of transuranics initially moving on site to do the research tests.

I am optimistic about the WIPP, pending resolution of the legislative land withdrawal item in this Congress.

5-YEAR MODERNIZATION PLAN

Senator EXON. When specifically will the Department be submitting the 5-year modernization plan that was required by section 3144 of the 1990 Authorization Act that was due in January?

Secretary WATKINS. We will be providing the 5-year modernization plan with the 1992 budget, Mr. Chairman. We can come up

and talk about it earlier than that with the members but that is when we will officially put it in place. It will have budgetary ramifications in the 1992 budget submission. We plan to keep moving as quickly as we can up until the last minute, so it will require budget adjustments.

Senator EXON. Well, let us talk dates. It was due in January.

Secretary WATKINS. Yes, sir.

Senator EXON. We will not get it until when?

Secretary WATKINS. About January 1991.

Senator EXON. A year late?

Secretary WATKINS. Yes, sir. I am sorry, Mr. Chairman, but I did not write the first go-around.

Senator EXON. I am awfully sorry, too, Mr. Secretary, because I think that puts us in a most difficult position here. Do you have any preliminary draft of this available yet?

Secretary WATKINS. We have seven different subcommittees, with a large group of people—100 people work on this task force—trying to put it together in an orderly fashion. Our hope is to have budget quality preparation as we go into the OMB in August of this year. We will adjust it as we learn more by November and make some last-minute adjustments. I just cannot move it any faster than I am moving it, Mr. Chairman, and have it a quality document.

Senator EXON. I just wanted to hear that. Senator Thurmond.

NATIONAL SECURITY INTERESTS VS. ENVIRONMENTAL CONCERNS

Senator THURMOND. Thank you, Mr. Chairman. Secretary Watkins, some groups have stated that the mission of Federal agencies, be they Defense or Energy facilities, must take second place to environmental laws. Although I am for protecting the environment, and most importantly, the safety of the workers, there has to be a point when national security interests take precedence. Are we approaching a point where national security is at risk because of environmental concerns?

Secretary WATKINS. I think it is a risk, Senator Thurmond, but I really do believe very sincerely that I can meld these two together so they do not have to be mutually exclusive. I think they can move together. And once we bring them together, I believe our production process will be more efficient, more effective, more sustaining, and we will not have these outages and these problems that impose burdens on the defense planning.

We are going through a very dramatic period of recouping after many, many years of inattention. I said before it would take me 2 years to get this thing moving in the right direction and that's about right. When it starts moving, it will be much more powerful than we ever had before in terms of its readiness to do the job and the ability to move in any direction.

The answer in the near term is we can meet the majority of our military requirements. In closed session today we will have a chance to talk about some specifics. Basically, I do not think we are injuring the national defense. We have worked closely with the Department of Defense on this issue, and they are in agreement with us on our plans for 1991 and what we are doing in the remainder

of 1990. What we are doing is in the best interest of all, and I am totally supported in this by the White House.

SAVANNAH RIVER RESTART

Senator THURMOND. Secretary Watkins, regarding the restart at Savannah River, I understand that the technical aspect of the restart is proceeding well, despite some of the issues identified by the Defense Nuclear Facilities Safety Board. Has the Department identified any potential environmental problems that may impact on the restart?

Secretary WATKINS. No, sir, we have not but others have. We will have to resolve those issues through the courts. I cannot talk about them in any detail today; I am precluded by counsel from doing that. But we feel we have a solid case.

In fact, for the first time a month ago, I began to feel comfortable about Savannah River. I was not sure before, but clearly, the message is getting through. Operators are writing their own plans for excellence in operation, right down to the deck plates in the floor. We are seeing a positive attitude towards training. The training program is now going beautifully. That was the long pole in the tent, and still is, I think. But we are going to make it on that. Everything is turned around down there, and I am excited about the prospects of this coming on line. I think we are going to have high morale and a very efficient plant.

Now, you have given me a lot of money to do that. I have had to put hundreds of millions of dollars in there that otherwise would not have been put in under the old regime. That is a measure of our lack of management attention in the past. In fact, I believe over the past 3 years, the 1989, 1990, and 1991 budgets, just Rocky Flats and Savannah River alone constituted about $7.5 billion of management ineptness that you all have been willing to help me get funded properly.

We are not going to have a first-rate outfit, but we will have an outfit that is up around C-plus or B-minus. And I will tell you, it will be an A by the time I leave this job. And you will be very proud when you walk through that plant. It will be spit and polished. It will be disciplined. They will have procedures. They will have prints that are up to date. They will have documents. They will have the training programs in the simulation computer for emergency actions. We will have drills going on at that plant. We will be reporting our deficiencies in the public reading room. Everybody is going to love us, Senator. [Laughter.]

Everybody in South Carolina, anyway.

Senator EXON. Let us be sure we get that in the record. [Laughter.]

DUALITY

Senator THURMOND. Mr. Secretary, are you still committed to the principle of duality, to build two new production reactors of different technologies?

Secretary WATKINS. Yes, sir, I am.

RESTRICTED AIR SPACE

Senator THURMOND. Secretary Watkins, I appreciate your update on where the Department and the FAA are in the process of establishing their restricted air space over critical DOE nuclear facilities. Since this is of such critical concern to many of the communities that are impacted by the restrictions, are your Department and the FAA considering modifications to your proposed rules, or is it an all-or-nothing proposition?

Secretary WATKINS. No, we are working and we are listening. We had some 3,000 people come before our hearings in Amarillo. We have had a number come before us regarding Savannah River and Rocky Flats the same way. We are listening to all of that. We will find the most harmonious and the best position I think.

We are not interested in damaging airport operations. But we believe these risks are real. They were raised to me by Senator Exon as I came through my confirmation hearings last year. And we have been working diligently ever since. It is a very thorny path to walk. No one loves us in that area, I can tell you that. We are trying to minimize the damage, but we are also trying to minimize the risks of perhaps in-air collisions and that sort of thing. We actually have photographs of military aircraft making runs on reactor sites for target practices, with bomb-bay doors open. So those are the kinds of things we have to stop. [Laughter.]

Senator EXON. These are our bombers?

Secretary WATKINS. These are ours. These are friendly bombers. [Laughter.]

Senator EXON. And that is the good news.

Secretary WATKINS. Without any bombs aboard, but this is not the kind of thing that we want to do. Savannah River is a large plant. It is near some air facilities. And so these kinds of things can happen. Restricted air space, while it would not rule out the occasional drifter in there, would certainly be a deterrent. And then if we could identify, we would have a violation of law.

It is reasonable to have these kinds of restrictions over these very complex facilities that could do severe damage to not only the employees but the local populace. Your idea makes sense. We have tried to get it for many, many years, as you know. This has gone up and down the roller coaster for a number of years and never come to fruition. We are trying this time to do a professional job, working with the State, and not overplaying the game. It will be fair when it comes out, and we don't want excessive restrictions on our civilian airports.

Senator THURMOND. Mr. Chairman, my time is up. Thank you.

Senator EXON. Thank you, Senator Thurmond. Before I recognize Senator Kennedy, let me comment. Thanks for getting into this matter after I brought it up at your confirmation hearing. You have done a good job, Mr. Secretary. From what I know of the plan, it seems to me that some of the air space around some of these facilities has been so widespread that it is not very practical. I would cite the example of the restriction for air space over the White House, which is extremely limited for lots of reasons. The air space over Camp David, a critical place where the President is frequently, there is air space, but it is limited air space. I guess one

of the complaints that I would have about what I have seen from some of the FAA proposals to date is that they are far too expansive to be practical. And I want to pass that editorial comment along.

Secretary WATKINS. I will take it, and I will look into that myself.

Senator EXON. Thank you. Senator Kennedy.

Senator KENNEDY. Thank you. I, too, join in welcoming you, Admiral Watkins. And I want to commend you, Admiral Watkins, for the decision to cancel construction of the Special Isotope Separation plant. We took a good deal of interest in that issue here in the committee, and I commend you for that decision, and also for the transferring of the health-related radiation research to the Department of Health and Human Services.

PLUTONIUM PRODUCTION

We know, Mr. Secretary, that Gorbachev announced the shutdown of two plutonium production reactors in April 1989, and in August 1989, the Soviet Union shut down a third plutonium production reactor. This leaves the Soviet Union, as I understand it, with 11 operating production reactors of which seven or eight are believed to be producing plutonium and the rest tritium. In April 1989, Gorbachev also announced the Soviet Union had ceased the production of highly enriched uranium for weapons as we had a number of years ago. It is estimated that at the present time the Soviet Union has a stockpile of weapons plutonium that is marginally greater than that of the United States. Why not challenge the Soviet Union to stop now? Why not in our negotiations try and verify what they have, and try to ensure that they are not going to produce anymore? We know they can just switch back on. We cannot. Why is it not in our national security interest to try to bring a permanent halt in their production?

Secretary WATKINS. Senator Kennedy, first I want to make it clear that you are dealing in an area that is outside the scope of my normal text. When I was a member of the Defense Department it was one thing, but now I am supposed to build the weapons stockpile that the President and Congress agree to through this committee, and so I really do not——

Senator KENNEDY. I am talking about the negotiations but from a common-sense point of view. From a common-sense point of view, why does it not make sense to get them to halt if we are not producing it?

Secretary WATKINS. I do not really know, Senator. I just do not have a feel for any of the background behind possible negotiations with the Soviets for eliminating——

Senator KENNEDY. If they have the capability to turn switches on and produce more and we do not, just as somebody who is head of the Department of Energy and has some familiarity with this whole area, would it be common sense to you to try and get——

Secretary WATKINS. I would think that they would close it down as unnecessary before they hold their hearings before their new committees over there. They certainly need the cash flow. Why

would they want to spend the money? So those are logical questions that could be asked. I just cannot answer them.

Senator KENNEDY. I am not asking you why they stopped. Now that they have stopped, they have the ability to turn it on again. We do not. Why is it not in our interest to try to work out at least some kind of procedure to get them to stop and halt and verify? Why is it not in our interest to challenge them?

Secretary WATKINS. I really have no idea, Senator Kennedy. I think it might have some merit to put it into the bag of things that is being negotiated.

CESSATION OF NUCLEAR TESTING

Senator KENNEDY. I draw your attention to the fact that upon the ratification, Article 1 of the Threshold Test Ban Treaty obligates the parties to continue negotiation with a view toward achieving a solution to the problem of the cessation of all nuclear underground weapons tests—that is a direct quote from the treaty. Similar obligations are contained in the Limited Test Ban Treaty of 1963 and the Nuclear Non-Proliferation Treaty of 1968.

We know of the commitment to proceed to negotiation of further limits on nuclear testing following the ratification of TTB and PNE. As a matter of fact, in the treaties that we will be asked to ratify after we have the verification protocol worked out in the next summit, included in the treaty will be continued negotiation to try to work out a halt on nuclear testing.

President Reagan, in his letter of October 1986 said, "I propose the United States and the Soviet Union immediately engage in negotiation of ways to implement a step-by-step parallel program—associated with the program to reduce and ultimately eliminate all nuclear weapons—of limiting and ultimately ending nuclear testing." That was part of the joint U.S.-Soviet statement which used the words "proceed to negotiate further immediate limitations on nuclear testing leading to the ultimate objective of complete cessation of nuclear testing as part of an effective disarmament process."

Then in January the decision was made, as part of a whole 10-year test program of the Bush administration, to break the long-standing U.S. pledge to begin immediate negotiations with the Soviet Union aimed at further constraining underground nuclear tests.

Then in the report in the paper, which I will include for the record, the officials say that the Pentagon has been eager to repudiate the negotiating pledge.

[The information referred to follows:]

A24 WEDNESDAY, JANUARY 24, 1990 THE WASHINGTON POST

Breaking Pledge, U.S. to Defer Underground Nuclear Test Talks

By R. Jeffrey Smith
Washington Post Staff Writer

The Bush administration has broken a longstanding U.S. pledge to begin immediate negotiations with the Soviet Union aimed at further constraining underground nuclear tests, once the two nations complete revisions of a 16-year-old testing treaty this year.

In a move that officials acknowledged could anger both Moscow and Congress, the administration said yesterday that it has decided not to begin the new nuclear-testing negotiations for an indefinite period while it reviews implementation of the revisions to existing accords.

Officials said the decision was made late last year at the request of the Defense Department, which uses the underground explosions to design nuclear weapons. It was confirmed in a prepared statement read to reporters by a State Department spokeswoman.

The officials said the Pentagon has been eager to repudiate the negotiating pledge because it is opposed to the new nuclear-testing constraints expected to result from the talks. The decision to defer the negotiations indefinitely, rather than repudiate them outright, resulted from compromise with other agencies, they said.

The decision means that for an indefinite period, underground U.S. nuclear tests will be constrained only by an existing, 1974 bilateral pledge not to exceed an explosive force of 150 kilotons, roughly equivalent to 150,000 tons of TNT. The atomic bomb the United States dropped on Hiroshima in World War II had an explosive force of 15 kilotons.

Many independent scientists and experts at the Livermore National Laboratory operated for the Energy Department have said both the United States and the Soviet Union appear to have complied with the 150-kiloton limit since the unratified accord was signed.

But the Reagan administration, acting on allegations of Soviet cheating and what officials have acknowledged was a strong desire to delay further testing constraints, sought changes in the existing treaty six years ago. The aim of the changes is to enhance treaty compliance verification through highly intrusive, on-site inspections of many nuclear tests.

The Soviet Union accepted these changes last September after substantial bickering and agreed that the revisions would be formally approved in June during a U.S. summit involving President Bush and Soviet President Mikhail Gorbachev. Officials said that setting this deadline for completion of the revisions forced the United States to reassess its position on the subsequent negotiations.

The U.S. pledge to begin the new talks immediately was initially provided to Congress and the Soviet Union in 1986 by President Ronald Reagan. But the implications of these talks for U.S. nuclear-testing plans, and for the development of new nuclear weapons, were not substantively addressed by an interagency group until last fall, the officials said.

The Pentagon maintained that new constraints on the number and explosive force of underground tests would interfere with the development of more modern U.S. warheads, including some being pursued under the Strategic Defense Initiative.

State Department spokeswoman Nancy Beck said revisions to the 1974 accord "will involve new and complex techniques necessary to provide effective verification. As a practical matter, therefore, it will be important to have a period in which to observe the implementation of the protocols in order to give both sides experience with these new verification methods."

She added, "After a period of observation, we will be better able to assess the verification lessons learned and also to determine the additional moves that make sense from a national-security standpoint." Beck said she did not know how long this period would last.

A report of the administration's decision first appeared in Monday's Washington Times.

Rep. Edward J. Markey (D-Mass.), an advocate of additional nuclear testing limits, yesterday criticized the Bush administration for "making a major mistake . . . [by] backing away from an agreed-upon set of actions that go to our credibility." Sen. Edward M. Kennedy (D-Mass.) said the administration's "apparent retreat from that commitment may well make it necessary for Congress to act."

Senator KENNEDY. Do you know whether the Pentagon was able to gain that repudiation?

Secretary WATKINS. Senator Kennedy, I am really not the administration spokesman for this. I prepared my input for the National Security Council meeting where the President attended on matters regarding nonproliferation recommendations. I have made recommendations on the Threshold Test Ban, the degree to which we can accept certain limits and so forth. I am very much involved in backup negotiations with Rich Burt at Geneva for verification strategies, verification technologies. I am not in the policy-making business, and I really should not comment up here. I am not competent to talk about how we negotiate, how we deal with these things. I have a technical input only that I make.

Senator KENNEDY. That is what we are really interested in. It is not to the question of negotiation. I did not know whether, as you have just outlined, you are in touch with Mr. Burt who has primary responsibility in terms of those negotiations——

Secretary WATKINS. I provide laboratory and technological backup.

Senator KENNEDY [continuing]. And it would seem that your views on these matters would be enormously important in terms of negotiating a position. I was interested to see as the result of the dramatic change in American position whether you had anything to do with that alteration or whether it was a decision made by the Pentagon. I gather it was nothing that you recommended to the Department of Defense in recent times——

Secretary WATKINS. No, sir.

Senator KENNEDY [continuing]. That would have brought about that change. Just a final point on this, Mr. Chairman. Are you familiar with the fact that the nations that were signatories to the partial test ban and the nonproliferation treaty are meeting now on May 29 to amend the partial test ban to make it comprehensive test?

Secretary WATKINS. I am aware of the meeting, yes.

Senator KENNEDY. It appears now that we may very well be the only nation that will be holding out for that position. I did not know whether you had any familiarity with what is happening in terms of the world opinion on this issue and whether you have any recommendations on it.

Secretary WATKINS. No, sir, I have none.

Senator KENNEDY. Thank you, Mr. Chairman.

Senator EXON. Thank you, Senator Kennedy. Senator Gorton.

RESTART OF SAVANNAH RIVER

Senator GORTON. Mr. Secretary, during the course of your direct testimony, you gave us a rather detailed and precise schedule for the reopening of three of the existing reactors at Savannah River, and you mentioned on a couple of occasions the fact that your schedule may be subject to litigation. Is it correct that the schedule which you gave to us is your belief as to what you can do from a technical point of view to satisfy yourself and does not include any extra time to deal with that litigation? It assumes that you would be successful, and the litigation will not slow down those restarts?

Secretary WATKINS. Yes. We have to plan on certain things. We are realists about litigation. The EIS process involves public comment, resolution of public comment, opportunities for intervention by various groups. We do take that into account, Senator Gorton. Despite all of that litigious sort of relationship we have with many groups, our schedule is still a good schedule. We think we will beat all those by the time we are talking about, yes, sir.

Senator GORTON. Do you have the same confidence in the 1999 date you gave for the completion of a first new production reactor in spite of the much longer time scales that the General Accounting Office and others have come up with?

Secretary WATKINS. We believe we can get both reactors up to the goals for which they have been designed and producing targeted amounts of nuclear materials by the year 2005; by 1999 we will have the first module of the gas reactor and the heavy water reactor operating.

Senator GORTON. I, too, noticed the story in the Washington Post this morning about the Military Production Network's report card on your dealing with waste cleanup issues. I join with the chairman of the subcommittee in stating that I suspect I would give you considerably higher grades on at least a number of these. I do notice, however, that perhaps the lowest of all the grades imposed on you had to do with budget priorities. I wonder if you would comment on their suggestion of assuring money for nuclear waste cleanup through the creation of a dedicated fund, a trust fund, number one; and number two, whether or not your evaluation of new production reactor options has included the consideration of the use of WNP-1 revenues as a dedicated source for waste cleanup. Is that possibility of revenues produced through that option an appropriate consideration as a part of your EIS for the new production reactor?

WNP-1

Secretary WATKINS. Let me take the latter question first, Senator Gorton. The WNP-1 issue is connected with the EIS for the new production reactor, as you know, in the tritium target development process. It is a required part of the EIS because it is an alternative to generating special nuclear material or tritium in this case. That development is proceeding because it is part of the total EIS package for the NPR. Was it FFTF or WNP-1 with which you were concerned?

Senator GORTON. My question was on WNP-1.

Secretary WATKINS. As far as the future of WNP-1 as a part of a cleanup process which I would assume you might refer to as actinide burnup or something of that nature——

Senator GORTON. I think you missed my point. WNP-1, as you are well aware, in addition to its possibility for the use of production of tritium, would also produce power. My question had to do with whether or not you were considering in this entire NPR decision-making process the use of the income from that power as an earmarked source of revenue for waste cleanup, whether that was a part of your EIS consideration?

Secretary WATKINS. No, sir, not in that regard. We have looked at the revenue potential for WNP–1 in our own analysis of both its cost effectiveness and the total cost. We have always agreed with the GAO that WNP–1 met both cost and delivery capability with revenues coming in from power generation in consonance with doing the military work.

Our problem is still, going back to the very basic concept that I talked about before, when we begin to put nuclear bomb material generation in a power reactor, we have a serious problem, in my opinion, on perception if nothing else. We have found out that it is not a technical violation of nonproliferation agreements.

I question whether the country is ready for that, and I do not feel with all the other problems I have that I can carry the mail on trying to press WNP–1 on that basis. If Congress feels that is the way it would like to go—it is cost effective, GAO agrees with that; it can do the job, we agree with that; it is cost effective for the very reason you brought up, but is that the way we want to go? I have heard no one but the Washington delegation talk about WNP–1 as the way to go. I am sorry, but that is the way it is. I do not have what it takes now to carry that mail up here before even this committee. I believe I could not get a consensus from this committee that it would be acceptable to them. I would only ask who I am looking at right here today to comment, but I really feel that is a problem I do not need right now.

DEDICATED SOURCES OF REVENUE

Senator GORTON. You still have not answered the question as to dedicated sources of revenue for waste cleanup either from that source or from any other.

Secretary WATKINS. It is nice to have revenues for waste cleanup. I would love to have it, but bringing that on line as a weapons production reactor to give power to the private sector raises more questions than I feel I am prepared to work on right now with all the other problems in my grade of D that I got from this particular group yesterday.

Senator GORTON. My time in this round is up, Mr. Chairman.

Senator EXON. Thank you, Senator Gorton. Senator Glenn.

ACTION PLANS OVERDUE

Senator GLENN. Thank you, Mr. Chairman. Mr. Secretary, as you know I have been very supportive of your Tiger Team environmental and safety assessments. I have been impressed with the work they have done, impressed with the breadth and the depth of their reports. I am concerned, however, that there has not been a single action plan addressing the problems identified in those Tiger Team reports that has been released. Let me give you a couple of examples.

Back home in Ohio, the Fernald on-site assessment was completed on August 25, 1989, but the action plan was due on October 20 and has not yet been completed. Similar situations were found at other weapons plants in Ohio. The Mound action plan was due on November 30 and has yet to be completed, and the Portsmouth action plan was due on January 5 and has not yet been released.

All in all, there have been 12 Tiger Team assessments completed and nine action plans are overdue. Savannah River and Lawrence Livermore will be due within the next 10 days. The West Valley Tiger Team assessment does not require an action plan as I understand it. Could you tell us the status of those plans and when we are going to get the action plans for them? Also, would you please address the resulting impact on the production capability of the complex?

Secretary WATKINS. Senator Glenn, those books (indicating) are the Tiger Team findings. Those are some of the most complex findings of the breadth and depth of the problems that I inherited here, and what I thought might be possible in 30 days simply is not. We have a lot of conflict resolution to deal with in those documents, so the action plans are not as simple as we thought. But, are we waiting? No. Let me tell you what we did at Fernald.

Senator GLENN. The dates we were given on the action plans were just too optimistic? Do you plan to set new dates?

Secretary WATKINS. They were too optimistic. We have been setting new dates. We have a new set of dates now that are more realistic because we know the depth. We had no expectation that we were going to have this kind of volume.

Senator GLENN. I can appreciate what you have gotten into on it. I know that. Have we been given the new action plan dates? I do not believe we have.

Secretary WATKINS. I will give them to you, Senator Glenn.

Senator GLENN. Could staff tell us, do we have the new dates?

Mr. HOEHN. We do not.

Senator GLENN. We do not have them.

Secretary WATKINS. We will provide that. I have a summary in front of me. I can make that available for the record. But let me provide for the record and to you personally, a detailed listing of what our plans are to bring these things on.

Because of the depth and breadth we have put more people on this program to try to get going. We are moving aggressively on the category one and important high-category two findings.

At Rocky Flats, 32 of the 93 recommended actions have already been completed, and we will have 70 by the end of this year. We will not have them all completed, but while some of those are not restart items, they are important. The same at Fernald. We have a whole host of things that we are moving out on aggressively, not waiting for the final action plan to come in.

So I do not want to leave the impression with the committee that we are sitting around waiting. We are not. We have a lot of management problems, Senator Glenn. At some of these places in your own State we do not even have people there in oversight.

Senator GLENN. Oh, I understand that.

Secretary WATKINS. And we are bringing them in, brand new. We know what we have to do, and we are trying to move and get the skills on board to manage these things right. We are not waiting for the urgent items. We are sending follow-up teams to help at Rocky Flats, Fernald, Mound, and the other places. They have not been as responsive as we would like.

Senator GLENN. I understand that, and I understand the complexity of, or what you have gotten into on it, and that the earlier

dates might be a little bit optimistic. But what we do want are dates when we can look forward to getting the information so we can follow this as to what you are doing on it. So if we could have that for the record, the dates that you expect to have these action plans in, it would be appreciated.

[The information referred to is retained in committee files.]

HIGH LEVEL WASTE TANKS

Senator GLENN. Specifically, at Hanford, which was addressed a moment ago, what steps are being taken by the DOE to address the potential for chemical explosion at Hanford's high level waste tanks where the pressures were building up?

Secretary WATKINS. Senator, with the chairman's permission, I would like to have Mr. Leo Duffy, my Director of Environmental Restoration and Waste Management, join me at the table. He has just been out there. He has reviewed the Defense Nuclear Facilities Safety Board report. He knows in-depth what the issues are there. And I think he could run through this, and it would be of interest to the committee.

Senator EXON. Thank you. That is a good suggestion. Mr. Duffy, please proceed.

Senator GLENN. Before you start, that was one where it looked as though there was a really clear and present danger as though something could happen.

Secretary WATKINS. Senator Glenn, your staff raised this issue and I gave you public credit for that, because really I think that is to your credit to have raised that issue. We looked at it last fall in some depth, and we knew it was a potential problem. We believe we probably mishandled the public relations and I apologized to the Governor. But, by the same token, the information was passed, was moved expeditiously, and I think we have a fairly good resolution now of where we stand. There is very low risk for any of the kinds of things that were portrayed in the press. We have more work to do, and I would like Mr. Duffy to talk about it.

Senator GLENN. Also, would you address whether there are any other places where we have that similar type of thing?

Secretary WATKINS. We had it at Savannah River. We saw it at Savannah River, and the unfortunate thing is we did not take the lessons learned out of Savannah River and move them to Hanford. That is the real root cause of the problem.

Mr. DUFFY. In response to a request from your office, Senator Glenn, we contacted the Hanford site on the ferrous cyanide, which was the issue for the single-walled tanks. At that time we identified that, in contrast to the situation at Kyshtym, in the Soviet Union, which was the original question, our tanks are maintained at a level now of less than 140 degrees. And the monitoring indicates that we are not getting a significant increase in any of those tanks due to the decay of the radioactivity.

So, from the single-walled tanks we felt that there was not a problem for any ammonium-nitrate generation. I think that was confirmed by the reviews we had with the State and independent groups that came in and said the ferrous cyanide issue we believe is under control. It is a serious issue, and we have to maintain con-

tinuous monitoring of those tanks. But in the process, we looked at the double-walled tanks, and that is when we get into the hydrogen generation question. Looking at hydrogen generation as a 13-year history of cyclic variation in the levels of the tanks, and as the Secretary indicated, we felt that that was a major deficiency in intellectual curiosity. That is a nice way of putting it.

Senator GLENN. It sure is. [Laughter.]

Mr. DUFFY. What we did was put together a very aggressive team from the standpoint of looking at the root cause of the problem, whether or not there was an immediate problem associated with hydrogen explosion or hydrogen ignition. We found that the hydrogen generation is due to a chemical that was previously used in removal of strontium from the processing operation and that it does have a cyclic nature of buildup.

In looking at the concentrations—and we did measure the last release, which was on April 22, I believe, with the hydrogen concentration about 3.2 percent, we met with the State, we met with the oversight committee of the Defense Nuclear Facilities Safety Board. And I think everybody is convinced that, although the problem has a potentially serious nature to it from the flammability of the hydrogen, there is no immediate explosion potential in that tank. It does require operational control. We think we have a solution operationally that will reduce the buildup of the hydrogen in the tank.

From our standpoint we have three items to do. We have a technical evaluation for the chemical analysis of what is in the tanks—what was previously used in the processing operation for all of the tanks. We have a second operational problem that will cycle the level of the tanks to prevent the hydrogen from building up and reduce the potential for any flammability. And the third thing is to make sure we do not have any other chemicals in the tanks that would produce that operation.

With regard to the Savannah River operation, they do not have the same complex chemical operation from their processing operation. Hanford was more of a research operation in the early phases of fuel recovery operations. They used many things, including the ferrous cyanide. They used this EDTA solution, which is an extractant for heavy metals. And that was not the case at Savannah River. So we do not think that is a problem from both tanks' standpoints.

We have put out a notice to all field operations officers regarding what we call intellectual curiosity. Do you have a repetitive problem? Are you looking at it in aggressive detail? Should you be including it in the reports and have action plans? We did get a letter from the State of Washington yesterday which, one time, complimented the Department on its research into this operation.

Senator GLENN. Thank you very much. My time is up. Thank you, Mr. Chairman.

Senator EXON. Thank you, Senator Glenn. Senator Levin.

REACTOR RESTART TIMETABLE

Senator LEVIN. Thank you, Mr. Chairman. Admiral, welcome. Perhaps you gave us this date earlier in your testimony, but I

gather that one of the reactors at Savannah River is expected to be restarted by the end of this year?

Secretary WATKINS. Yes, sir, the K-reactor in December. The Westinghouse team has set a tentative date of 10 December. That is obviously subject to whatever other perturbations we have, but that is the nominal start-up date. We have to have that in the schedule now.

Senator LEVIN. And by that time it is expected that all of the operators would be adequately trained, and this will be totally safe to be restarted?

Secretary WATKINS. Absolutely, sir.

Senator LEVIN. Now what is the timetable for the restart of all three Savannah reactors?

Secretary WATKINS. The start-up schedule I have here is first, the K-reactor in December; then the P-reactor in April; and then the L-reactor in September.

Senator LEVIN. September 1991?

Secretary WATKINS. 1991, yes, sir.

Senator LEVIN. So by the end of 1991 you expect that all three reactors will be restarted?

Secretary WATKINS. Yes, sir.

Senator LEVIN. Now at that time, when all three reactors are restarted, will they be able to maintain the current inventory with tritium?

Secretary WATKINS. Yes, sir.

Senator LEVIN. And does that current inventory assume a START Treaty, no START Treaty, or either way? In other words, if we did not enter a START Treaty and there was not a reduction in the number of weapons, and presumably the reuse of the tritium in those weapons, would those three reactors still be able to maintain the current inventory?

Secretary WATKINS. Yes, sir.

Senator LEVIN. If there is a START Treaty, will there then be some kind of a safety net, in terms of tritium production?

Secretary WATKINS. There is some, yes, sir. But you know we have a decay rate of 5.5 percent of the stockpile per year. So that continues to go on. Depending on the ramp-down rate, we would have to do an analysis under the stockpile memorandum review that we conduct frequently during the year. Obviously, if you do not need any you do not need to produce any. You can recover the tritium from other weapons. So theoretically it is possible. Until we see a schedule, I would not know the time frame we are talking about. Certainly, it would not be in the near time frame. It would be something downstream.

Senator LEVIN. Now what percentage of our projected tritium needs into the future will those three reactors provide? I believe you were going to give us a schedule in July.

Secretary WATKINS. Assuming we can keep them on-line until we get the full goal capacity in the new production reactors, 15 years. None of the engineers or scientists who have reviewed the current plan will give us a nickel investment to go beyond that. That will be stretching—by that time they will be almost, what, 50 years old, or something like that.

Senator LEVIN. So the expected life of these three reactors, after all your refurbishing and modernization, is about 15 years?

Secretary WATKINS. About 15 more years to keep these reactors. Now it is possible, Senator Levin, obviously, to go beyond that. And we will not know that for some time. Right now we do not have any cracks after our ultrasonic testing of the pressure vessels or the reactor vessels. This is very important. So we may find—and another thing is, we are replacing wiring that is old and stiff, and broken in many cases. Now if we go through our modernization program with every shutdown, picking up speed, and trying to get these back on-line, we may have an engineering judgment by 1995 that says you might be able to squeeze out another 5 years. So all those things are possible.

Senator LEVIN. When you say another 5 years, you mean beyond the 15?

Secretary WATKINS. Beyond the 15. But I just do not know that right now, and there is no engineer or scientist who will give me any hope that I can do that. They said you are just going to have too many things deteriorate, and you are going to end up with a situation where you have an old design and you are not going to be satisfied with the safety envelope any longer.

Senator LEVIN. I understand.

Secretary WATKINS. These are technical items, and I do not have all the answers today.

Senator LEVIN. We do have the conclusion, I gather, that it is the advice that you have received that you rely on, that with all the money we are going to spend, the refurbishing in these reactors, they are going to be good for about 15 years?

Secretary WATKINS. About 15 years.

Senator LEVIN. And that they will be able to maintain the projected need for tritium during that period?

Secretary WATKINS. Yes, sir, they will.

Senator LEVIN. Without any additional reactors?

Secretary WATKINS. Yes, sir, they will, providing I can prove that K, P, and L can stay up. I just do not know yet until we get some experience. They have been shut down for 2 years. They were maltreated before that. We have a lot of learning to do over the next year.

Senator LEVIN. Assuming that we invest in the refurbishing and they are restarted properly and you can get them up, it is your expectation that they are good for 15 years?

Secretary WATKINS. Yes, sir. In fact, I am so uncertain about their longevity at this point, that in the budget we have a contingency for the N-reactor backup. The N-reactor at Hanford is moving in 1991 to what we call dry lay-up. This gives an extra 1 to 2 years for start-up potential. It is now in wet lay-up. If you wanted to move aggressively now from wet lay-up into production of tritium, it would take about 40 months.

When we put it into dry lay-up in 1991, that is the first indication that we feel reasonably comfortable that we have Savannah River in hand. By 1992, I will probably come over here and ask you to decommission N-reactor, if all goes well with Savannah River. But that is a back-up system. So it is kind of that order of magnitude. By 1992 I think we will be in a better position to answer your

question in very specific detail, and get a new engineering prospectus on those three reactors.

Senator LEVIN. Thank you, Admiral.

Senator EXON. Thank you, Senator Levin. Senator Nunn.

Chairman NUNN. Thank you, Mr. Chairman. Admiral, first of all, I give you much better grades than the organization in the paper this morning. I think you have taken a very difficult job and you have a long way to go, but you have done remarkably well with it in the time you have been there and I congratulate you.

Secretary WATKINS. Thank you, Senator.

Chairman NUNN. Pursuing what Senator Levin just asked, let us say a lawsuit blocks the start-up of the K-reactor for one reason or the other, what contingency plans do you have for the production of tritium if the K-reactor restart is blocked?

Secretary WATKINS. The only thing we have, Senator Nunn, is to open up the issue of N-reactor, which is now in wet lay-up, and take another hard look. We have about a 9-year life in N-reactor, were we even to be able to start it in 40 months. So it is not a long-term potential because of the graphite growth and some other problems there.

Chairman NUNN. If you are blocked from starting the K-reactor, what is the impact on tritium production and on our weapons?

Secretary WATKINS. You have virtually no ability to maintain the stockpile, and you lose 5.5 percent per year of your effectiveness.

Chairman NUNN. What would that do to the Trident program?

Secretary WATKINS. I think probably we ought to discuss this in the closed hearing we are scheduled to have, Senator Nunn. And I have some experts here so we can talk very specifically about it.

SAVANNAH RIVER ENVIRONMENTAL IMPACT STATEMENT

Chairman NUNN. On the environmental impact statement, have you now issued a draft environmental impact statement on the Savannah River reactors?

Secretary WATKINS. We are on the verge of putting it out this coming Friday.

Chairman NUNN. This Friday you will have that?

Secretary WATKINS. Yes, sir, we will.

Chairman NUNN. How much time is going to be allowed for public comment after those are put out?

Secretary WATKINS. We have the proposed start-up date now in December, so there is ample time for not only comment period, but for resolution of comments. We believe we can do that well within the framework of the December start-up for K-reactor.

Chairman NUNN. Do you plan to have a completed environmental impact statement before the restart?

Secretary WATKINS. Yes, sir, we do. By the way, that environmental impact statement, Senator Nunn, I want to make it clear for the record that it is for reactor operations, not for start-up. And I say that because of the scoping of the EIS. So I have to be a little careful of the words here as it makes a difference. So that is for reactor operations at Savannah River. And that is the nature of the EIS.

Chairman NUNN. What is the distinction between that and start-up? You have to start-up to get to operations, do you not?

Secretary WATKINS. I cannot talk to it in detail. Maybe I can have Mr. Richardson, who heads up my restart office, he may be able to give us some specifics of the nuances between those two, what might be a different scoping.

Chairman NUNN. Please furnish that for the record, if you would.

Secretary WATKINS. All right, we will provide that for the record, Senator Nunn.

[The information follows:]

The Department plans to complete its Environmental Impact Statement (EIS), and the associated Record of Decision, on the continued operation of the K-, L-, and P-reactors at the Savannah River Site in October which will be prior to restart of the three reactors. The scope of the EIS covers the overall environmental effect of continued reactor operations and is not keyed to restart. In this respect, the EIS applies to continued reactor operations including planned outages in upcoming years and therefore goes well beyond an EIS that would apply only to reactor restart.

5-YEAR PLAN

Chairman NUNN. I was not here when Chairman Exon gave his opening statement but I want to strongly reemphasize his words because I think they are very important. He says on page 2, "the Department of Energy has chosen not to comply with the statutory requirement that it submit an annual 5-year budget plan for national security programs beginning in January of 1990. To complicate matters even more, it is fairly clear that the 5-year plan for environmental restoration and waste management activities is not adequately funded and that the Department's budget request for these activities is encumbered with activities that bear closer resemblance to production than to clean up."

Admiral, we have the same problem with the Department of Defense. They are not submitting a 5-year plan. The General Accounting Office has come up and told us that the statutory requirements are clear and that the Department of Defense and the Department of Energy have not complied with the law that is on the books in that respect.

In addition, Chuck Bowsher, the head of the GAO, has said that he does not believe we can make logical decisions in the 1991 budget without having a view of where we are going over the next 4 years because so many of these programs, as you well know, encompass spending for 3, 4, or 5 years, even though you authorize them this year.

I guess my question to you would be, can the Department of Energy submit a 5-year plan to us in time for our mark-up, which will be within a month or 6 weeks?

Secretary WATKINS. You have the same questions there that the chairman asked, and I answered those, but let me do so again, Senator Nunn. On the 23rd of February, we sent you a letter explaining what our position was on our inability to comply. The inability goes something like this: we were given in December 1989 a comprehensive concept for a new plan for the Department of Energy. Our review of that indicated it was woefully inadequate. It did not

have anything we could lean on for budget quality. I had to establish a task force. There are seven different committees working with 100 people on this thing to develop a 5-year plan. We will have that this fall. We will have the key elements of the start of our proposals for the 5-year plan—a legitimate 5-year plan, if you will—in the 1992 budget submission. We can probably be in a position to brief you, but not with anything of quality until late in the year, not before you adjourn. We can certainly brief you on where we stand. We would be pleased to come over and give you an update.

Chairman NUNN. Can you give us an update before we start mark-up, even if it is just an oral update?

Secretary WATKINS. I think we can. Let us try to do that. I will try to put together an update of where we stand, and maybe by asking some questions you can see where certain things stand in the scheme of things. Building 371, for example, is going to be in there, and we can talk about Building 371. We can talk about certainly the most egregious problems that we have found to date in our surveys, and we can say these will probably appear in the 1992 budget, and certainly we can address the kinds of things we want to protect in 1991. So I believe we can do that.

Chairman NUNN. Are you saying you are having difficulty yourself? This is not something imposed by the OMB on you?

Secretary WATKINS. No, sir, it is not. It is having difficulty ourselves. It is the same problem I have had throughout the Department with every single rock I have turned over, Senator Nunn. This is not unusual. It has been in all the planning on WIPP or Yucca Mountain, or the 5-year environmental restoration and waste management plan with its R&D components. Nothing existed. It did not exist, so I have no baseline. I have been trying to get that through my Tiger Team reports and everything, and they are coming in with it now. We are adding it up and trying to put it in the proper context so that you can have a legitimate plan. I do not think we can move any faster than we are moving.

Chairman NUNN. I understand your problems really better than I do the Department of Defense's problems. You inherited all sorts of difficulties and all sorts of very substantial revisions, but it is very difficult in this budget environment for us to be able to make decisions in the first place and second to go to the floor and defend them when we cannot tell anybody what is going to happen in the second year, third year, or fourth year.

We have so many budget problems already, and there is going to be such a squeeze on the DOD and the DOE, this is compounding our problems. I have talked to Secretary Cheney about it over and over, but I have made no progress. In fact, at the last hearing, when he came up last week, it sounded to me as if he has no intention whatsoever of submitting a 5-year defense plan any time before our mark-up, although he too said he would give us certain interim reports.

But it just raises the question in my mind whether there is a reluctance on the part of the whole administration to give anybody a fiscal picture of where we are heading, perhaps because they have no idea how we are going to meet budget totals. That is what I

have to say I have in my mind, and maybe in your case that is not true.

Secretary WATKINS. Well, I do not know of any hidden agenda like that, Senator Nunn. I have certainly not been brought into anything like that.

Chairman NUNN. So nobody is imposing this on you?

Secretary WATKINS. Nobody is imposing this but me, and I am trying to do it right. I do think it is important that we come up with something, and I will commit right now to coming up and giving you the very best shot we can. We are now reviewing the Tiger Team reports and factor that into our modernization plan for the 5-year update, so I think we can give you a lot of the items in there. They just will not be packaged up in a very neat way, and they will not be boxed into a nice set of priorities and budget line items.

Chairman NUNN. Well, that will be a big help to us. We will try to get some key questions and maybe we will try to at least address the principal elements and get that to you.

Secretary WATKINS. We will have a rapid turn-around on those, because obviously we are very concerned and we understand the problem. We regret that we are not able to give you a better set of documents than we have.

Chairman NUNN. Thank you. Thank you, Mr. Chairman.

Senator EXON. Thank you, Senator Nunn. Just let me emphasize, as I did in my opening statement, and what Senator Nunn has just done, that we are really in a quandary in a whole series of these areas. The Secretary of Defense has not come up with his figures for the 5-year budget plan for basic operation.

We in this committee have led this effort to clean up the nuclear waste mess and try and modernize our important facilities, so I do not think it is necessary to have a hearing on that. You did not suggest that.

Chairman NUNN. No.

Senator EXON. If you could either come up and visit with us or give us some written material, that would be very helpful, which I think will prove productive as we mark up the budget.

Secretary WATKINS. We will give you, of course, the 5-year plan. I think it is a quality plan. On the waste management and environmental restoration and the R&D component that comes in the 050 budget line for defense, we can do that. We have that at hand. What we do not have is the whole complex modernization, which basically is the baseline for the entire 5-year budget.

[The information follows:]

The "Environmental Restoration and Waste Management Five-Year Plan," released in August 1989, is attached. An updated version of this report will be issued annually. The next version is due later this summer.

[The report is retained in committee files.]

Senator EXON. Thank you. Senator Bingaman.

ORGANIZATIONAL FLEXIBILITY

Senator BINGAMAN. Thank you, Mr. Chairman. Admiral Watkins, I join with Senator Nunn in commending you for the difficult job you have and the progress you are making. Let me ask a gener-

al question. The Department which you have taken over really is being transformed with your leadership in some significant ways. Congress has given you some new missions. You are doing this national energy strategy. You have a variety of new requirements on you. When I look at the organization of your Department, I become concerned that you may not have the flexibility you need to meet the new demands. You only have authority for one Under Secretary, now, although you have responsibility for both civilian and defense activities. You clearly have some new missions that none of the Assistant Secretaries you presently have are really tasked to perform. Would additional flexibility be helpful to you in running the Department?

Secretary WATKINS. You asked that a year ago, Senator Bingaman, and I said give me a chance to get my feet on the ground and really understand the organization. I have done that, and the answer to your question is yes, I need flexibility. I need flexibility in three ways. I have basically restructured my organization. I have kept you informed up here of what I am doing. I think it is sound. It has been looked at by external advisory groups, independent advisory groups. Both the Defense Nuclear Facilities Safety Board and the Ahearne Committee have complained about a number of organizational problems. We have remedied those.

I am in a position now where I know exactly what I need for the long haul. I need persons with special skills, along the lines of my statement today. I need some critical positions. I know how many I need. I know where they are to go, and I need some organizational flexibility at headquarters to give me a clear system, an institutional process that I can carry out these things efficiently. I can live with almost any organization, so it is not such a burning item that I have to come over here and plead with that alone. That will not solve it. It is mostly people who will solve it, but it certainly would clean up the act to be able to have a clear line for defense, for nondefense programs, for my laboratories, with an enhanced scientific advisory organization that does not even exist today so that I can work the labs, which are a national jewel in our crown that we need to sustain and worry a lot about—we are not doing it today—to get into nonproliferation issues, to get into verification strategies, get into all of the kinds of things for which there is no advocate except me.

So I need help in that regard. The reason I have not come over here and asked for it is, frankly, I am asking for so many things that I think if I ask you for one more Assistant Secretary or something, it is going to take the "rag off the bush," so I have taken it easy. But if you all want to help and you can get Senator Glenn to help you, I will be cheering you both right on and helping you. [Laughter.]

PLUTONIUM PROCESSING FACILITY

Senator BINGAMAN. All right. I appreciate that response very much. Let me ask about a specific comment you have in your testimony on page 18. You say the proposed plutonium recovery modification project is designed to replace outdated facilities with a modern, reliable processing capability. There are some folks in my

home State who of course are very concerned that nobody has in mind—or they are very hopeful that nobody has in mind—putting any of that plutonium processing capability at Los Alamos. We have, and the Department of Energy has, been talking about a replacement project for the research and development laboratory there. I would like for you to specify your intentions with regard to that. The key point, of course, is we feel we are doing a lot in our State, related to the nuclear mission—the nuclear weapons needs of our country. We do not want to also process the plutonium.

Secretary WATKINS. Senator Bingaman, you have raised a very good point. This has been a controversial issue, because you can't shut down Rocky Flats and yet not put in a replacement plutonium facility. It is a dichotomy that has to be addressed, and we have just sent you and other members a letter today on these issues.

We have been studying Building 371 since we got here. It was a nightmare. It started years and years ago. It was poorly managed, poorly handled, and had to be stopped when clearly the design specifications were not adequate. This is an attempt on our part—we have gone through the review—to find a mechanism to deal with the very delicate problem of dealing with the remaining plutonium in certain drums. We have no laws allowing us to ship it or deal with it. We have to somehow find a mechanism to process the residue and still continue the operations in a safe manner over the next 20 years while we phase out Rocky Flats. That is our objective. That will be in this long-range plan, along with some other site decommissionings where we move under a different set of laws for environmental restoration and waste management. We see no way out of dealing with the Building 371 issue.

I think that everybody in Colorado who does not want us to build this building is saying it is going to go to Los Alamos. You were down there at Los Alamos with me, and the big hue and cry then was, "are you bringing the plutonium facility here?" The answer is no. That is a research facility. It is not a production facility. We would have a whole series of problems independent of the political issues that would need to be addressed.

There is no other place to do plutonium reprocessing. It must be done at Rocky Flats. I cannot get it out of there, I cannot transport it, and so therefore we have to do it there and do it in a responsible way that not only handles that particular problem but can help us close out Rocky Flats and do it safely. We are going to expose these operators to excessive amounts of radiation under the old, antique system we have in Building 771. It is ridiculous. We should have had this building on board and properly operating, but it was mishandled. It is another one of these scandals, a $400 million scandal, and it is like our $600 toilet seat that I had when I was in the Navy. It just hung around your neck for years. [Laughter.]

So that is there, and I am sorry about it, but I did not generate it and we have to fix it. I believe it is a clear answer, but we are not planning to put it in Los Alamos at a research facility. It would be ridiculous to do that. We would have to build a production facility at Los Alamos, and I certainly do not have that in my 5-year plan. Everybody else in other States—Washington, Idaho—they are not particularly interested in getting a processing facility there. I have not had anybody come forward and say, "oh boy, I want a plutoni-

um processing facility." So somehow we are going to have to find the answer right there at Rocky Flats, which is the ideal place to put 371. We need it desperately for a range of reasons, safety being uppermost, for the next 20 years.

Senator BINGAMAN. Thank you very much. My time has expired.

Senator EXON. Thank you, Senator Bingaman. We are about to begin our second round of questions. Since we are going to have a closed session, and since we are running out of time, I would like to ask the timekeeper to let us go for 3 minutes on this second round to see if we can save some time.

INFORMATION REGARDING CONTRACTORS

First, I would like to ask you a general question. You have a lot of expertise in your Department, Admiral, regarding contractors. I do not expect you to be able to answer this question fully today, but if Members of Congress would write to your Department with regard to certain contractors that are involved in the compact States on low-level nuclear waste, would your Department be able to give us what information you have as to the reliability and experience that you have had as a Department with such contractors? I am talking about low-level nuclear waste.

Secretary WATKINS. Yes sir, we would. We only have to be a little bit cautious that we follow certain ground rules that would have to be set by general counsel in view of the States' primary responsibility, but we have already agreed that we would provide technical assistance and any advice we can to the States. We have already been doing that.

ROCKY FLATS STORAGE SPACE

Senator EXON. I will be asking you questions about a facility on low-level nuclear waste scheduled for Nebraska. When will the storage space at Rocky Flats be exhausted?

Secretary WATKINS. Our best estimate right now is November 1991, and that is with the super compactor, which is in our plan. We are about ready to complete all of the preliminaries and it should be on line this fall, which will take us to November 1991.

Senator EXON. What realistic alternatives to the WIPP are being pursued if the WIPP is not open before Rocky Flats runs out of space?

Secretary WATKINS. We have already sought a private commercial procedure and are commencing that dialogue now. We have had some responses come in already—unsolicited responses, and so forth—we are actively moving into that area right now.

Senator EXON. What is the restart date for Rocky Flats as of now?

Secretary WATKINS. As of right now, EG&G has just given me a plan which I am reviewing for the start-up of two buildings by mid-June and the remainding six by the end of July. We will be in full operation by the end of July, barring court case problems and so forth. As far as we know, we will have external oversight issues resolved. We will have all of our issues resolved. We will work with the State on any issues that they have remaining to be resolved,

and we think that is a very realistic schedule right now; we feel fairly good about it.

Senator EXON. I will reserve the balance of my time to set a good example. Senator Thurmond.

ENVIRONMENTAL DAMAGE

Senator THURMOND. Thank you, Mr. Chairman. Mr. Secretary, I was dismayed to see the environmental damage caused by construction of the K-reactor cooling tower—something like 75 acres—and I want to show you these pictures.

[Photographs shown.]

Do you see those bare spots? 75 acres—I have picture after picture about it—of the hardwood forest had to be cut down in order to build this $80 million tower to prevent temporary damage, and I say temporary damage, because there is nothing certain that this tower can be used for the permanent reactor—the NPR. I just wondered if we did not do more damage to the environment by constructing this tower and destroying 75 acres of hardwood, than the temporary damage that was caused by the warm water from the K reactor. The water has been going into Steel Creek for years and years—30 to 40 years. Now we are spending $80 million just to build a temporary tower, destroying 75 acres of hardwood because some of the zealots in the EPA decided it ought to be done. I wonder if you had any opinion about that? [Laughter.]

Senator EXON. There goes the old score card. [Laughter.]

Secretary WATKINS. Senator Thurmond, I think there are a large number of alternatives to what we are doing in some of these situations. There was a proposal, I believe, by one of your colleagues in the House that said it would be far better if we were to build a second fish hatchery and grow more fish than we have now. Then we would not damage as many. If we built another fish hatchery down there, it would be a lot cheaper. It would not do all that damage and we would grow more fish than we have now, even during operations. So we do not look at those kinds of things. Unfortunately we get the fixes from other people and say that is the way it is going to be.

So we are in there trying to comply with an EIS on this thing, and we all agreed at the time that we seriously questioned the $127 million which was our first request for that particular cooling tower. We finally got it down to $79 million, which is—you know, we all felt good about that. I do not feel particularly good about this overall issue. I would like to solve some of those environmental problems by other means, and I believe too often we get fixed very rigidly to these kinds of things, when we actually do more damage to the environment than help.

Look at the windmills that we have that do not turn around. One of the requirements is you have to have wind, and so if you put windmills in an area, such as we have done out in the valley in California where they sit idle so much of the time, you are looking at this maze of forest—steel forest—with propellers that are sitting idle.

So I believe there are other aspects to environmental protection that are far better options. The bill in the House of Representa-

tives to put in an alternative program was thoroughly defeated. So I agree with you, but I have to get these things on line. I had no recourse but to put $79 million into that cooling tower, and I find that to be, frankly, not the best solution.

Senator THURMOND. I am glad to hear you say that. 75 acres of beautiful hardwood was sacrificed to put up a temporary tower just to prevent temporary damage to that creek. They have been using that creek for 30 or 40 years for this purpose; why all of a sudden do we have to spend $80 million for a structure whose useful life may only be 5 to 7 years. Some efforts were made in the House to waive the Clean Air Act, but they were not successful. I just wanted the public to know that $80 million of their money could have been saved and 75 acres of beautiful hardwood could have been saved.

NONCOMPLIANCE WITH ENVIRONMENTAL LAWS

Mr. Secretary, the DOE has proposed new rules that will make contractors fully responsible for all fines and penalties for noncompliance with environmental laws, even if the contractors are unable to achieve compliance because the DOE has not provided funds or the EPA has not given them a permit. Is this not fundamentally unfair? How can the contractors agree to provisions that make them put their whole company at risk?

Secretary WATKINS. I certainly do not think that is our policy, Senator Thurmond. If it is, it certainly is not my policy, and I will look into it. But that is not our understanding.

Senator THURMOND. Would you please look into that.

Secretary WATKINS. We have said in our rule-making, our draft rule-making for our major contractors, that in the event that the DOE has not properly provided the funds, has not properly engaged with them in setting the standards, advising them properly, then we accept the liability. In other words, we share with the contractors in a GOCO operation, government-owned/contractor-operated concept, which most of our facilities are, that we share a big burden and we have to do our job. Clearly, we are not going to impose on them our own negligence, and we have written into the rule-making that under those circumstances where they can prove that we have not done our job, then we accept the liability for the contractor. I think that is fair.

Senator THURMOND. Thank you very much. My time is up.

Senator EXON. Thank you, Senator Thurmond. Senator Glenn.

AVAILABILITY OF ACTION PLANS

Senator GLENN. Thank you, Mr. Chairman. Mr. Secretary, will the Tiger Team action plans contain an estimate of the funding to correct the problems?

Secretary WATKINS. Yes, sir, they will.

Senator GLENN. They will?

Secretary WATKINS. They will.

Senator GLENN. Will these plans be available before our committee mark-up of the DOD authorization?

Secretary WATKINS. When will that be, Senator Glenn?

Senator GLENN. That will be in about 6 weeks, something like that.

Secretary WATKINS. Yes. I have looked at my own list here, and certainly the ones at Portsmouth and other places should almost all be in hand now. We are learning the process, and I think we are going to move much more expeditiously in the future.

Mr. DUFFY. Some of the dollars may not be available at that time because they need plans to come up with the dollars, but the immediate actions will be dollar identified.

MODERNIZATION AND CLEANUP COSTS

Senator GLENN. One of the things for long-term planning that we really need—and we have talked about this many times since we started looking into all of this—the GAO has one set of estimates as to how much it will cost to really modernize and then another estimate of how much it is going to cost to clean up, and the totals vary anywhere from, I believe, $100 billion to $200 billion, somewhere in that ballpark. Do you have any figure you can give us today as to what your educated guess is right now as to what the two components of this are going to cost, the clean-up and the modernization?

Secretary WATKINS. No, sir, I cannot do that, Senator Glenn. I just cannot do it.

Senator GLENN. Do you have any ballpark-type figure?

Secretary WATKINS. No, sir, but it is big. I cannot do it, Senator Glenn, and I will tell you why I cannot. So much of it is related to the 5-year R&D component of the plans. We have not used our laboratories and our facilities to identify the least cost clean-up of these facilities. We just have not done it. We are making our current plans based on old technologies until I can get our labs integrated into the problem with new technology. We are now getting wound up on this thing and are getting ready to address it, I hope, in the 1992 budget. Presently, we do not really have a good feel for how research may cut these costs down.

We are finding in some cases, where we have really devoted some attention to it, such as at Rocky Flats with a specific process, that we can cut the costs by a factor of 10. But we ought to wait a year to do that to see what is coming out of the laboratory. We ought to get smarter about how we are going to do these things because new technology will have a major impact. The trouble is we are also discovering more problems. I believe that probably those things may be somewhat a wash as we go downstream. But I just do not know yet, and I think it would be very premature to give you another number that I would be held to that I simply do not have any justification for.

Senator GLENN. Okay. I am trying to do this in a constructive way. I meant this in a constructive way.

Secretary WATKINS. I know you did.

Senator GLENN. So that I would know what to push for here to try to back up your requests. And unless we have your requests substantiated by whatever the Tiger Team—so your other estimates provide, we are sort of at a loss here as to what direction we go supporting you with your budget. That is what I am after.

Secretary WATKINS. I think we will have a good updated 5-year plan out this month (May). That will help us to get more definitive about our outlook for 1992. I would want to be definitive giving the committee a rundown on the other part of the modernization program. At the same time we give you an update on the environmental restoration and waste management 5-year plan, because it is running separately from the modernization study, I'd like to brief you on other parts of the modernization problem for the defense complex as a whole.

[The information referred to is retained in committee files.]

CLEAN-UP PRIORITIES

Senator GLENN. It would help a great deal, too. My time is up, but just let me make a statement. It would help a great deal if this could be prioritized on the clean-up as to the health dangers involved.

Secretary WATKINS. It is, Senator Glenn. The whole program is based on priorities one, two, three, and four.

Senator GLENN. If there is an absolutely clear and present danger, there is no doubt that we have to go for that. That is number one.

Secretary WATKINS. That is fully agreed to. Priority two is fully agreed to and fully funded. Priority three is the one we would like to fund, and it is still very important. Priority four is if you have everything else, this is nice to do too because that is the way you ought to run your plants properly. We have them already racked up that way, and I think you will be pleased with the updated version that is then going out for public comment. I think it will give you a very good sense of where we stand.

There is probably another several hundred million dollars somewhere that would be perfectly justified. Whether we can manage that as early as 1991, I am not sure. We are going to have to look at that. But certainly it is going to be in our 1992 budget to ramp up again where we discover new problems we just did not find before.

Senator GLENN. Thank you.

Senator EXON. Thank you very much, Senator Glenn. Senator Wirth, I would like to recognize you in just a moment. We are in our second round, and we dropped from 5 minutes to 3 minutes in the second round. Would it be satisfactory with you, Senator Wirth, if we would recognize Senator Levin for 3 minutes and then we will try and finish up by allowing you 6 minutes?

Senator WIRTH. I will accommodate you in any way that I can, Mr. Chairman. Thank you.

Senator EXON. Thank you very much. I think that is reasonable. If you will stand by for the second round, we would appreciate it. Senator Levin.

NEW PRODUCTION REACTOR

Senator LEVIN. Thank you, Mr. Chairman. Admiral Watkins, you have testified before that the three restarted reactors at Savannah River will give us adequate tritium for our current inventory, and if there is a reduction in that inventory through START negotia-

tions, presumably, it would be more than adequate to maintain our current——

Secretary WATKINS. Yes, that is correct.

Senator LEVIN. Is the one new reactor at Savannah not expected to produce about as much or at least as much tritium as those three restarts?

Secretary WATKINS. The new production reactor at Savannah River is designed to 100 percent goal, and we can talk about what that is in the closed session, but it is designed for 100 percent goal. The high temperature gas-cooled reactor is designed for a 50 percent goal, but with the option that additional modules could be added. That is why it is modular.

Senator LEVIN. I just have a few minutes, but the bottom line is the new reactor at Savannah will be more than adequate to maintain our current inventory once it is started at the end of this century, is that correct?

Secretary WATKINS. Yes, sir. It will be just adequate to do it. It is 100 percent goal right on the button.

Senator LEVIN. I understand. But if there is a START Treaty, which we will know in a few years, it will be more than enough to maintain the current inventory, is that correct?

Secretary WATKINS. Yes, sir, it will be, depending on what the agreed-to ramp down rate is under the START program. I would have to look at that very carefully before I would say when that would happen. It may not happen until after the turn of the century, as you know.

Senator LEVIN. We are fighting time here. Even without a ramp down under START, it will maintain our full current inventory. So, no matter how slow the ramp down, it would be more than enough to maintain a START-driven inventory, right?

Secretary WATKINS. Yes, but it is a single reactor and when it goes down, you have no backup again. So, we are going to be in another big fire drill.

Senator LEVIN. There might be no backup, depending on the restarts, depending on how long those three restarts last, is that not correct?

Secretary WATKINS. That is correct.

LOW LEVEL WASTE

Senator LEVIN. Admiral, let me go to another subject quickly and that is the low level waste which was raised by Senator Exon. I know that is not your predominant concern, but the process which has been used now is going to result in more sites for the low level waste storage than we need. I think you have agreed to that in a letter which you wrote to me recently that it will produce more sites than the country needs. I think you have conceded that this process will produce more than we need in terms of low level storage sites. You have an advisory group that works with the States in this area, and if the States ask you, if the Governors' association asks you if you would participate in trying to figure out a process which would reduce the number of sites to what we need plus any backup rather than more than we need, would you be willing to

have that group of yours participate in that process if you were asked by the Governors?

Secretary WATKINS. Yes, sir, I would.

Senator LEVIN. I think it would be very helpful. Thank you, Admiral.

Senator EXON. Before I recognize Senator Wirth, let me thank you for bringing that up and thank you for your answers, Mr. Secretary.

Secretary WATKINS. I think the word "process" is very important because if it is going to get involved in site selection then we are going to be between a rock and a hard place, and we are in enough of those now, in my own radioactive waste and toxic waste problems. I do not think anybody feels that we have all that much credibility, but we do have the technical capability to come in and give advice. We can certainly look at the low-level waste prospectus and make some suggestions along those lines.

Senator EXON. Well, the point Senator Levin has made, Mr. Secretary, is a very valid one. Let me take a minute to cite the history. Many years ago we all knew we had a problem with low level nuclear waste, and Washington, DC tried to do something about that. The Governors rushed in and said now, wait a minute, let us handle this. Congress said it is a wonderful idea, and we gave them the authority to form compacts. Now, the States that have been selected out of that compact for the low level nuclear repository have all kinds of problems because it is now very clear that the number of sites, as has been referenced by Senator Levin, are obviously more than what we need. But we have a situation, I guess, where the States that do not have low level nuclear waste facilities under the compact want to leave well enough alone. The States that have been selected for the low level nuclear waste are saying wait a minute, why should we be building 12, 14, or 16 when all of the experts seem to say that we need no more than six.

I think what Senator Levin is suggesting, then, is that you not get in the middle of this. But if the initiative comes from the Governors and the Governors' conference, where I think it should legitimately come from, because it was the Governors and the Governors' conference that created the compacts in the first instance, that some of the Governors are now criticizing. So, I think we can make it clear that if the Governors' association as an organization requested your technical assistance in this area, you could supply it.

Secretary WATKINS. Absolutely. We will do it right away. We understand the problem, and we are sympathetic with it. But we do have to be a little bit cautious so we do not respond favorably to requests which indicate they want the DOE to take it over. That does not help anything.

Look at the Yucca Mountain site. Look at the WIPP opening and everything else that we are doing, the Idaho situation and Hanford. To give us that thing is not going to be that helpful. I think the Governors can do a better job. We can provide the technical assistance. I think we can help out in the very area that you are talking about, and we are very delighted to. We have worked very closely with the Governors. I think they are an outstanding group. They

are superb. They have the national interest at heart, and they are willing to solve these problems.

Senator LEVIN. If I could just complete this thought to make sure we understand what we are talking about, the technical assistance is to devise a process at their request which would reduce the number of sites to no more than we need.

Secretary WATKINS. We would be pleased to participate in that kind of thing.

Senator LEVIN. Thank you.

Senator EXON. Thank you. Thank you, Mr. Secretary. Senator Wirth, thank you for your patience, and you are recognized now for 6 minutes.

Senator WIRTH. Thank you, Mr. Chairman. I appreciate your forbearance and, Secretary Watkins, thank you very much for being here and for undertaking this increasingly thankless task.

ROCKY FLATS RESTART

I have two questions related to your testimony on page 18. As you can imagine, they are related to Rocky Flats. The first one is the issue of the restart of Rocky Flats. When will the Advisory Committee on Nuclear Facility Safety and the Defense Nuclear Facilities Safety Board studies be completed?

Secretary WATKINS. Senator Wirth, I signed a letter to you this morning which responds to your request after the WIPP hearings before the Energy and Natural Resources Committee of about a month ago. I enclosed a copy of an April 20 letter from the Ahearne Committee, the Advisory Committee on Nuclear Facility Safety, that relates its track record to date—what has been done, all of the things the committee reviewed, and the problems that were found. The entire list, which consists of three or four pages of detailed documentary review, plans, intended plans to continue. I think you will find it very useful.

Also, we are planning two formal public hearings from the time we announce restart later on this month until we actually move through the system. We also will have two formal press conferences where I am going to invite all of the players to come. We certainly will invite the oversight boards to give their presentations.

In the meantime, we will keep passing to you the information that we get from the Defense Nuclear Facilities Safety Board, which does not work for me. I have to be a little bit cautious there. I do not know what the Board's schedule and plans are, but we provide everything requested.

Senator WIRTH. Will they be done by the 1st of June or so, do you think?

Secretary WATKINS. We will not start up until the Board completes its review. Our present plan, including the reviews and knowing their concerns from earlier communications, we are targeting mid-June when EG&G hopes they will resume operations in the first building. I am reviewing that plan now to determine whether I am willing to accept mid-June, knowing all the various things that have to be pieced together. I have not agreed to that, but that is the EG&G proposal.

Senator WIRTH. What are you currently predicting for the restart of Rocky Flats?

Secretary WATKINS. Two buildings in June. The remaining buildings in July.

Senator WIRTH. That means those two studies will be done, correct?

Secretary WATKINS. Yes, sir, but I am not sure what you mean by studies. Studies to me mean an aggregate, a wealth of documentation, now, for 6 months.

Senator WIRTH. Well, I am only quoting you that you had said that Rocky Flats would not start again until the studies have certified that appropriate corrective actions have been implemented.

Secretary WATKINS. That is correct.

Senator WIRTH. And that Rocky Flats is set to reopen.

Secretary WATKINS. I am just saying that the term studies does not imply that you will get a formal single thin document. I will be able to give you the volume of documents that we get.

Senator WIRTH. We will have a certification that appropriate corrective actions have been implemented and that Rocky Flats is safe to reopen?

Secretary WATKINS. Yes, sir, you will.

Senator WIRTH. We will have those certifications from those two groups?

Secretary WATKINS. I will have the certification from the two groups.

Senator WIRTH. And that will be, obviously, part of your public hearing and so on?

Secretary WATKINS. Yes, sir, it will be.

FUTURE OF ROCKY FLATS

Senator WIRTH. Let me, if I might, go on to my second point, which is the future of Rocky Flats. You say there does not appear to be any future alternative for the Nation other than keeping Rocky Flats on line to deal with warhead management. You have asked us in the budget for $65 million for an environmental impact statement to build a new Building 371. My letter of early April talks about the apparent priority of spending less on clean-up and more on the new building, and I am sure that your answer will be in the letter that you signed off on this morning. The questions that I have now relate to the future of Rocky Flats and the mission of Rocky Flats. Are we building this new building for the purposes of plutonium recovery? What is the purpose of the new building? Where does it fit in the goals of the Department of Energy and the nuclear weapons complex?

Secretary WATKINS. Both plutonium processing, which is very important, and its relationship to waste management—that is the critical issue. In the first place, you have special nuclear material that you cannot just transfer to another site. There is no law that will permit some other recovery of the 25 grams per drum, and there are some 4,000 drums that we have there now. We have to deal with that issue. There is no facility to handle that right now. This building will do that. It will also, in so doing, give us the potential to minimize the amount of long-term fissile material waste

that we otherwise have to deal with. We will have to process plutonium if warheads are returned and dismounted as a result of a START agreement.

The physics package has to come to Rocky Flats to have the plutonium processed and put in proper storage configuration for the long haul, and that has to be done at 371. So we do have to process the plutonium. If we have a START agreement you cannot just put these nuclear weapons anywhere. We have to process the material to put into safe configuration for the long storage.

Senator WIRTH. That assumes that you cannot just process the material as it comes back. I just want to make sure that we understand this. There is sort of an irony to arms control. As we increase our success in arms control, increasing numbers of nuclear weapons are going to be retired, and the irony of that for the Denver metropolitan area is as arms control lowers the number of weapons, the mission at Rocky Flats goes up, is that correct?

Secretary WATKINS. I think it stays fairly constant. In other words, I am saying the good news is that we have won the game in arms control. The bad news is you have to process that material, and you have to separate these various waste products and get rid of them and put them in a proper long-term storage, and you cannot do that by leaving them in a potentially——

Senator WIRTH. The argument is made that the triggers can be stored by themselves and do not have to be reconfigured if they come back. Is that correct?

Secretary WATKINS. Well——

Senator WIRTH. They could be stored that way just as easily as bringing them back to Rocky Flats and reconfiguring them for storage, reconfiguring the plutonium for storage?

Secretary WATKINS. I would have to get one of my experts up on that.

Senator WIRTH. Well, that is a crucial issue. If one of the major arguments for a new building is that you have to reconfigure, remachine the plutonium for storage, if that is not necessary, then one of the missions of the new building would appear to slip further toward the back burner, and we are then looking at the reprocessing the safety side of Building 371 as its primary mission.

Secretary WATKINS. Senator Wirth, I really ought to get somebody up here who is much more familiar with Building 371 details. Obviously you are, and I am not, and I would like for Mr. Duffy to give me an assist on this.

Senator WIRTH. Well, my time has expired, and Senator Exon has been very patient.

Senator EXON. Why don't you go ahead and continue.

Senator WIRTH. The problem we have here is the overall mission of the long-term plan. Are we still adhering to the initial document that came out in 1988 about relocating Rocky Flats by starting its relocation in 1995. Is that still the purpose? Is that the goal, the long-term plan of the Department of Energy?

If we start from there, the set of problems is simply that we have this one long-term plan that came out of the Department of Energy that everybody is kind of fixed on, and this is where we are going to go, and that Rocky Flats was going to be phased out starting in

1995. That was the plan that we were all waiting for a long time, and everybody appeared to agree upon.

Now, we seem to be shifting back toward saying that there does not seem to be an alternative for the Nation which would seem to be mutually exclusive with the goal of 1995 set in the long-term DOE plan. The point that I am making—and I do not think we can do all of this here—is that we have one set of goals that goes toward the phase-out of Rocky Flats but, on the other hand, we are being asked for an enormous amount of money for Building 371. Your statement says there does not seem to be any alternative for the Nation other than Rocky Flats, which would say we are not going to phase out Rocky Flats but rather we are going to build a major new building, and the citizens of Denver ought to become accustomed to the fact that this nuclear weapons complex and major plutonium facility is going to remain there for a long time to come. That is the question, the sort of long-term strategy question that we have. It is more than a 5-year plan, obviously. Where does the Department see Rocky Flats headed?

Secretary WATKINS. We are going to phase out Rocky Flats for plutonium operation at the earliest practical date consistent with maintaining the national deterrence that is agreed to by the President and Congress. That drives. Therefore, it is our best estimate at this point that the earliest we can do that is about 20 years, and we will have that in our modernization plans.

One of the things we have to do is look at how we are going to phase out Rocky Flats. Building 371 is germane to that. In any EIS for Building 371, Senator Wirth, we are going to have to answer all the questions that you raised. That is the point of having an EIS. We must have the alternatives. We have to have all things connected with that phase-out. So we plan to do that.

We do not have all of your answers right now, but clearly we have agreed with you that we should get out of the Denver area as quickly as we can. We believe that we can begin phasing down by about 1995. We have not gotten the final plan yet to hopefully close it out. 371 is germane to that. Even though it does not come on line for a while, we need 371 for all the reasons that I have outlined in my letter to you today.

Senator WIRTH. I appreciate that answer, and this will be my final comment, Mr. Chairman, thank you. You can understand the suspicion of a million people living in the Denver metropolitan area. They see a new building being built there, and they see a statement that there does not seem to be an alternative for the Nation other than keeping Rocky Flats on line. It would appear that the Federal Government has switched its position, that there is not going to be a phase-out of Rocky Flats.

Secretary WATKINS. I would like to leave my successor with a plan to phase it out so he would not have to go through the challenging experience that I have gone through with Rocky Flats. I am not interested in keeping it in the Denver area at all. I believe it should move, and by move I mean close out. And we are already moving some of the operations in our 1991 budget, even to do some of the warhead work where we can do it elsewhere at other facilities.

But if we look at the cost of shifting Rocky Flats to somewhere else, just the cost alone, it is, at a minimum, a factor of two over Building 371. We do not have any States clamoring at the door, Senator Wirth, for doing plutonium operations. And if you think Yucca Mountain is difficult, which takes the high level waste from commercial reactors, wait until we try to get plutonium processed elsewhere. Unfortunately, it is there from the point of view of the locals. We think we can do it right. We think we can be sensitive, and we hope we can bring them back with us as participants in the closeout over this 20-year period and try to make it a positive event rather than a negative one.

Senator WIRTH. Maybe we finally found a mission for some floating Star Wars platform. That might be the place to do it. [Laughter.]

Senator WIRTH. Thank you very much, Mr. Chairman.

Senator EXON. Thank you very much, Senator Wirth. Senator Wirth, do you have any questions in closed session for the Secretary?

Senator WIRTH. No, thank you, Mr. Chairman.

Senator EXON. I suggest that since the Secretary will be back in the latter part of the month that maybe we could fold this closed session into that later date. I do not think that there is anything critical of this nature in that area. You do not necessarily feel that we have to have a closed session now, do you, Admiral?

Secretary WATKINS. No, sir, I do not, except to answer your questions forthrightly. If we need to get together with you or any of your members in the interim period before the 23rd, we will be glad to do that, if you want to talk about different stockpile mixes and so forth.

Senator WIRTH. Mr. Chairman, if I might, I want to thank you again, Mr. Secretary. I know what an enormously difficult problem this is, and everybody is criticizing you from every possible angle. As I have said for so many times, yours is the most thankless job around. I look forward to receiving your letter.

Secretary WATKINS. Senator Wirth, you are the only one here who did not comment on my grade in the newspaper today. I take it you agreed with the group?

Senator WIRTH. Well, groups at the other end of the spectrum give me marks that look just about like that, so maybe there is a mirror image. I was also sympathetic with the grading chart. [Laughter.]

Senator EXON. I have a little advice to both you and your report card in the paper this morning, Mr. Secretary, and the report card that you said that you get from time to time, Senator Wirth.

Senator WIRTH. I will send you a copy.

Senator EXON. The story goes that the irate father called the son in—I think this is something, in fact, that you can use—and said, "how come, son, you got one D and four Fs?" And the son explained in a very straightforward manner, "well, Dad, I worked so hard on getting that D that I let the other four grades slip a little." [Laughter.]

Senator EXON. Maybe that is the way we should approach this.

Senator WIRTH. I think that is close.

Senator EXON. There will be additional questions for the record from Senator Kennedy and others that we ask you to respond to as quickly as you can, Mr. Secretary. And with that, we thank you and we are adjourned.

[Questions for the record with answers supplied follow:]

QUESTIONS SUBMITTED BY SENATOR J. JAMES EXON

TRAINING GOALS AND IMPROVEMENTS

Senator EXON. In February the Defense Nuclear Facilities Safety Board found that training for reactor plant operators was deficient. What training improvements has the Department made to date?

Secretary WATKINS. The Defense Nuclear Facilities Safety Board, DNFSB, made five recommendations to the Department concerning the qualifications of reactor plant operators and supervisors. Each of the Board's recommendations was carefully considered and the specific actions to be taken to implement all five recommendations were provided to the Board in a letter from the Secretary of Energy dated April 10, 1990. A copy of that response is enclosed for your information.

The Secretary of Energy
Washington, DC 20585

April 10, 1990

Mr. John T. Conway
Chairman
Defense Nuclear Facilities
Safety Board
600 E Street, NW
Suite 675
Washington, D.C. 20004

Dear Mr. Conway:

Your letter dated February 22, 1990, forwarded recommendations regarding the training and qualifications of selected personnel involved in the operation of the Savannah River reactors. My response to the Board's recommendations is enclosed.

I accept the Board's recommendations, the thrust of which is that reactor operations personnel must be properly qualified and have adequate training prior to reactor restart. Each of the Board's recommendations was carefully considered and specific actions taken to implement those recommendations are indicated in the enclosed. Where the Board's recommendations might be subject to differing interpretations, DOE has indicated the interpretation on which its response was based.

In accordance with 42 U.S.C. 2268d, DOE's responses to the Board's recommendations will be published in the Federal Register.

Sincerely,

James D. Watkins
Admiral, U.S. Navy (Retired)

Enclosure

Recommendation a: That DOE determine and specify the qualifications that reactor plant operators and supervisors will be required to demonstrate before restart of the K, L, and P reactors.

Response: DOE accepts this recommendation. Qualification requirements for the K, L and P reactor operators, senior reactor operators, and certified supervisors are specified in DOE Order 5480.6, "Safety of Department of Energy-Owned Nuclear Reactors" dated September 23, 1986. Order 5480.6 specifies that American Nuclear Standard (ANS) 3.1, (1981) "Selection, Qualification and Training of Personnel for Nuclear Power Plants," shall be the basis for qualification and training requirements for reactor personnel and that the requirements of ANS 3.1 shall be selectively applied as appropriate to the specific facility. Site specific plans have already been developed at Savannah River to specify those qualification requirements that senior reactor operators and certified supervisors[1] will be required to demonstrate before restart of the K, L and P reactors, consistent with the Board's recommendations, are as follows:

a) Education: The minimum education level for senior reactor operators and certified supervisors is a high school diploma unless otherwise approved by DOE on a case-by-case basis.

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[1]Senior Reactor Operators at Savannah River are analogous to licensed Reactor Operators at commercial plants. Certified supervisors at Savannah River are analogous to Licensed Senior Reactor Operators at commercial plants with the exception that supervisors at the Savannah River Site are not required to have been certified to manipulate controls since SRS operators and not supervisors manipulate controls.

In addition, at least one certified supervisor per shift must have a Bachelor of Science degree in an engineering or related science field.

b) Experience: Senior reactor operators must have 2 years of reactor experience, including 6 months on site. Certified supervisors must have 3 years of reactor experience, including 6 months on site. In addition, the Control Room supervisor must have a minimum of 6 weeks experience at the Savannah River Site (SRS) reactor operating at or above 20 percent rated power.

c) Training:

1) Senior reactor operators and certified supervisors must complete their certification and restart training programs which consist of the following classroom training:

	Hours Certified Supervisor/Senior Reactor Oper.
Fundamentals	242/146
Plant Technology, Systems and Procedures	321/193
Operating Practices	206/126
Industry Experiences/Modifications Training	34/34

Written examinations are administered in each area and a minimum passing grade of 80 percent is required.

(2) Certified supervisors and senior reactor operators must also complete simulator training (164 hours) that consists of a program of manipulations intended to enhance proficiency, including 2 evaluated reactor control manipulations within 6 months prior to restart.

(3) The operators and supervisors must also complete an 80-hour, structured on-the-job training program designed to increase operator knowledge of plant systems and integrated systems operation. Additionally, certified supervisors and senior reactor operators will already have completed 1480 or 520 hours, respectively, of on-the-job training as part of their initial certification training.

d) Medical: Personnel assigned to senior reactor operator or certified supervisory positions must meet the medical requirements specified in American National Standards Institute/American Nuclear Society (ANSI/ANS) 3.4, "Medical Certification and Monitoring of Personnel Requiring Operator License for Nuclear Power Plants."

e) Fitness for Duty: All employees of the contractor operating the SRS reactors, Westinghouse Savannah River Company (Westinghouse) and employees of subcontractors who have unescorted access to reactor facilities are subject to preemployment drug testing, for cause drug testing, and random drug testing.

Certified supervisors and senior reactors operators demonstrate fulfillment of training qualifications by passing a combination of written exams, practical exams, oral and operating exams and simulator exercises prior to restart. The exams are administered by Westinghouse, but DOE reviews the examination process and the results. Additional information about DOE's review of the contractor's program is included below in response to recommendation c.

Prior to restart, DOE will conduct its own operational readiness review in order to verify that certified supervisors and senior reactor operators have the requisite skills and knowledge to

assure safe operations. DOE personnel with experience in commercial nuclear training and operations and necessary SRS training will lead the review and will monitor pre-startup control room evolutions as well as simulator exercises.

Additionally, as discussed below in response to recommendation b, each shift crew is being supplemented by the addition of a certified supervisor (other than the control room supervisor) who has been qualified as a Shift Technical Engineer, and by the interim assignment of a Shift Advisor. These additions are being made to further augment the educational and experience level of each operating crew (See discussion under II.b. in the response to recommendation b.) The specific training and qualification requirements which have been developed for these two positions are as follows:

a) Shift Technical Engineer: 1) is a certified supervisor, 2) holds a four-year college degree in engineering, or related physical science, 3) has completed the supervisory certification training plus the following:

Topic	Hrs
Mathematics	60
Classical Physics	24
Nuclear Physics & Reactor Theory	120
Mechanical Components	20
Process Instrumentation	20
Heat Transfer & Fluid Flow	70
Electrical Science	60
Print Reading	20
Safety Envelope & Bases	40
Accident & Transient Analyses	40
Chemistry	30
Material Science	40

Radiation Protection and Health Physics	40
Thermal & Hydraulic Sciences	24
Applied Reactor Physics	32
Change and Discharge Operations	12
Reactor Startup Physics	12
Roles and Lessons Learned	4
Symptom Based Procedures	16
Limits & Safety Analysis	28
Total	712 Hrs.

b) Shift Advisor: 1) is a holder of a license at a commercial reactor within the past 5 years, 2) completed a minimum of five years commercial nuclear experience, and 3) successfully completed SRS training as follows:

Introduction to Reactor Systems	40 hours
Safety and Emergency Procedures	16
Health Protection	3
OSHA Safety Procedures	2

Qualification requirements for senior reactor operators and certified supervisors are currently implemented through the Westinghouse procedure DuPont Savannah Operating Procedure (DPSOP) 38, "Reactor Personnel Selection, Qualification, and Training Manual." This procedure is currently being revised to incorporate the qualification requirements described above which were developed for restart. Following revision, it will be submitted to DOE for approval.

For the longer term, Westinghouse is developing an enhanced certification program for future certified supervisors and senior reactor operators which will provide for additional training

beyond that which is required for a safe restart. This program will take into consideration applicable commercial certification guidelines, commercial nuclear knowledge and abilities and current industry good practices. Specific milestones for this program will be approved by DOE prior to restart. Westinghouse is also developing accredited training programs for other Savannah River plant personnel, such as maintenance personnel, instrumentation and control technicians and health physics personnel, comparable to corresponding accredited training programs in the commercial nuclear field.

Recommendation b: That DOE identify any differences between its approved qualifications and those prescribed by NRC for analogous positions in the civilian nuclear power field; that where differences, if any, exist, DOE identify any supplemental measures that have been adopted in view thereof;

Response: DOE accepts this recommendation and has identified the differences between its approved qualifications and those prescribed by the Nuclear Regulatory Commission in Part I. Supplemental measures have been adopted and are discussed in Part II below.

I. Qualifications for civilian nuclear power reactor operators and supervisors are specified in 10 CFR 55 and in the American Nuclear Society standard, ANS 3.1 - 1981 "Selection, Qualification and Training of Personnel for Nuclear Power Plants" as modified by Regulatory Guide 1.8, 1987, "Qualification and Training of Personnel for Nuclear Power Plants." A comparison of qualification requirements for Savannah River senior reactor operators and certified supervisors (described in the response to recommendation a.) and the analogous positions in the commercial nuclear power field is as follows:

a) Education: Both DOE and NRC programs require a high school diploma. DOE has added the requirement that at least one supervisor per shift have a Bachelor of Science degree in an engineering or related science field.

b) Experience: For commercial reactor operators (analogous to SRS senior reactor operators), NRC requires 1 year reactor experience, including 6 months as a nonlicensed operator. SRS requires its operators to have 2 years reactor experience, including 6 months on site. NRC requires that nuclear reactor operators have an additional 2 years of power plant experience but does not require this experience to be nuclear experience. For senior nuclear reactor operators, NRC requires supervisors to have at least 4 years of power plant experience of which 2 years must be nuclear experience, including 6 months on-site and 6 weeks at a similar facility in operation at or above 20% rated power. The SRS implementation plan for DOE Order 5480.6 requires SRS control room supervisors to have at least 3 years nuclear experience, including 6 months on-site and 6 weeks experience at a SRS reactor facility operating at or above 20% rated power. NRC also requires senior reactor operators to have at least 1 year experience as a licensed reactor operator prior to becoming a licensed senior reactor operator.

c) Training: Both NRC and DOE require completion of a training program consisting of classroom, simulator and on-the-job training. The technical training programs in the commercial industry are generally accredited by industry-sponsored organizations. A comparison of the typical amount of time (in hours)

that NRC and DOE programs devote to different training modules follows:

	Cert. Supervisor		Cert. Operator	
	SR	Commercial	SR	Commercial
Classroom Training				
Fundamentals	242	666	146	590
Plant Technology, Systems and Procedures	321	720	193	600
Operating Practices	206	180	126	120
Simulator Training	164	240	164	160
On-the-job Training	1560	960	600	480

Note: The Savannah River simulator training hours were established based on the complexity and scope of Savannah River plant systems.

d) Medical: Both NRC and DOE require compliance with the medical requirements specified in ANSI/ANS 3.4, "Medical Certification and Monitoring of Personnel Requiring Operator Licenses for Nuclear Power Plants."

e) Fitness for Duty: A detailed line by line comparison of DOE and NRC fitness for duty requirements has not been made, however the DOE program for drug testing to assure fitness of operators to safely operate the reactors includes preemployment, for cause, and random testing. DOE does not presently test for alcohol. NRC fitness for duty requirements include testing for alcohol.

II. The following supplemental measures will bolster SRS shift capabilities:

a) In order to ensure that adequate engineering fundamentals are present on shift, the function of Shift Technical Engineer (STE) has been added. The STE will perform functions comparable to the position of shift technical advisor in the commercial industry.

b) A Shift Advisor has been created to place an individual with commercial Senior Reactor Operator experience on shift in an advisory capacity to the shift manager. This position is an interim one that will be eliminated when satisfactory performance has been demonstrated by operations personnel. Both the Shift Advisor and the Shift Technical Engineer positions have been created in order to enhance composite shift experience and education.

c) An additional 22 individuals with prior commercial Senior Reactor Operator or navy nuclear experience will have completed initial certification training and will be put in various positions in the reactor operating organization with the goal that a number of these individuals will eventually become control room supervisors.

d) Changes to operating practices in excess of current DOE requirements will be implemented prior to restart in the areas of: logkeeping, shift turnover, control room demeanor, procedure compliance, event notification, control of equipment status, equipment tagout and other aspects of plant operations. Guidelines developed for conduct of operations in commercial nuclear plants have been utilized in developing improved Savannah River practices in these areas.

e) DOE personnel with experience in reactor operations will continuously monitor restart activities until DOE is satisfied that improvements in the conduct of operations have been implemented.

III. Conclusions. In comparing the qualification of operators and supervisors at the SRS reactors with analogous requirements at commercial reactors, it is important to consider both the numbers of individuals assigned to a shift and the complexities and duties performed by shift personnel. In the commercial nuclear power industry, for a single nuclear reactor, there are 2 licensed senior reactor operators and 2 licensed reactor operators required to be on shift. These individuals perform all control room functions for the reactor plant and the secondary plant including power generation equipment. However, for each SRS reactor, 4 certified supervisors and 5 certified senior reactor operators will be assigned to each shift. The Shift Technical Engineer and Shift Advisor have been added to supplement Savannah River operational staffing.

Recommendation c: That DOE make a comprehensive review of the current level of qualification of each reactor operator and supervisor employing both written and oral examination, so as to establish that the scope and content of the training program will achieve the knowledge prerequisite for restart.

Response: DOE accepts the recommendation that ongoing training efforts need to be continuously reviewed by DOE to ensure that the needed skills and knowledge are attained by reactor operations personnel. Beginning in November 1989 and continuing to the present, DOE and Westinghouse have reviewed each operating crew to ascertain if training objectives are being met. These reviews have focused on written exam results, oral exam results and crew performance during simulator evolutions. DOE personnel participating in these reviews have had extensive experience in the training and licensing of commercial nuclear operations personnel. DOE has also utilized individuals in these reviews who are currently certified by the NRC to conduct operator licensing examinations

for commercial reactor operators, and who bring with them an understanding of commercial nuclear operator training and certification practices. Changes have been made to the training programs based on their input, as discussed below.

Prior to restart, DOE and Westinghouse will jointly conduct comprehensive evaluations of certified supervisors and senior reactor operators to ensure that they can demonstrate the appropriate knowledges and abilities required for safe restart. The examinations are intended to be conducted in August 1990 in order to allow for proper development of the examinations and for completion of recent enhancements to the training program.

This evaluation will include performance-based written, oral and operating examinations which include Job Performance Measures (JPM) and Individual Safety Critical Tasks (ISCT). The examinations will be based on approved "Knowledges and Abilities," written and oral examination questions, and simulator scenarios. Examiners for these evaluations will include peer evaluators from other reactors on site (i.e. P and L reactors for K plant, K and L for P, etc.) and selected instructors.

This examination program will be modeled after the requalification examination program being conducted jointly by the NRC and licensed facilities at commercial nuclear plants. A SRS Specific Knowledges and Abilities (K/A) Catalog will be developed, validated and approved. Standards of performance for both knowledge and ability will be established prior to the examination. This process will focus on safety related skills and knowledges as well as the ability to use tools of the job, such as procedures, piping and instrumentation diagrams (P&ID's), technical specifications and other controlled references. Results of the examinations will be used to define areas where training must be upgraded either prior to restart or as part of the long

term continuing training programs. Results of these examinations will also be used to support management decisions so as to ensure that composite crews have the requisite skills for safe restart. Information on individual weaknesses will be referred to the Training Department for use in tutoring or upgrading training, as necessary.

Recommendation d: That the reactor plant operator and supervisor training programs be modified as necessary to take account of the required qualifications and the current state of knowledge and experience of the operators and supervisors as indicated above.

Response: DOE accepts this recommendation and has taken the following actions to implement it. Based upon ongoing DOE and Westinghouse reviews of the training program, it has been concluded that two areas require strengthening. Specifically, operators and supervisors need increased knowledge in the areas of reactor fundamentals and reactor systems and components. Specific initiatives to address these needs include:

1) Fifteen different "Theory Primers" addressing reactor components, reactor theory, chemistry and thermodynamics are being developed to provide basic supplementary knowledge of reactor fundamentals and theory, to stimulate operator interest, and to facilitate self-study.

2) The ongoing training program will give high priority to fundamentals training, reactor theory training and reactor systems training. These courses are thought to be the most beneficial and logical basis for a long-term program. The course material for this training is still under development. The course will involve approximately 120

classroom or simulator hours covering such topics as refueling, start-up testing and initial operations, technical specifications and reactor theory/reactor physics. These courses will be conducted during the first 3 cycles of continuing training.

3) To promote operator self-study, a "Fundamentals Test Out" program has been implemented. This program provides a financial incentive for operations personnel to use self-study material in the areas of mathematics and physics by providing a financial payment to personnel who successfully complete an exam based on the self-study material.

4) A two-phase testing program is being employed to identify individuals with a low probability of successfully completing the training program and performing to expected standards and to establish a baseline for input to continuing training. Phase I includes on-going job-specific performance evaluations for those persons who receive low scores on written or oral exams. Individuals not successful during the Phase I program will be provided remedial training to improve their skills and then they will be retested. Phase II identifies weaknesses in the level of operator knowledge in mathematics and science in order to supplement the continuing training program accordingly. This phase will be completed prior to June 1, 1990.

Recommendation e: That DOE accelerate implementation of a configuration management program to help assure that as-built drawings of safety related systems are available for [illegible] of operators and supervisors in procedures a.. for discipline of operations (e.g. valve line-ups).

Response: Based on the assumption that by "configuration management" the Board means that set of procedures and controls used to ensure that the as-built configuration of the plant is reflected in appropriate drawings, procedures and other documents, DOE accepts this recommendation. Westinghouse has recently accelerated efforts in this area and will develop accurate operational flow diagrams for all reactor safety systems prior to restart. These diagrams will be used by operations personnel to establish equipment and system lockouts and valve lineups, conduct trouble shooting, and perform other systems related activities. Prior to restart, the operations staff will be trained in the use of the appropriate diagrams needed for these applications.

Recommendation f: That the operators and supervisors be qualified in use of the revised procedures that will be in place for normal operations and for emergency situations.

Response: DOE accepts this recommendation. A deliberate program to train operations personnel on the revised procedures is an integral part of the restart training program. Westinghouse requires procedure revisions to be reviewed by reactor supervisors, control room supervisors and building operators on a monthly basis. In addition, the Westinghouse training department receives new procedures as well as proposed procedure revisions from the other departments to ensure that procedure changes are properly incorporated in the training program, including the simulator.

Written examinations, oral examinations, simulator examinations and control room operation will be used to demonstrate prior to restart that personnel are qualified in the use of revised normal and emergency procedures. DOE will participate with Westinghouse in the evaluation of

these examinations and will conduct an independent overview of control room practices.

DEPARTMENT OF ENERGY

Restart of K, L, and P Reactors at DOE Savannah River Site, South Carolina; Response to Recommendation of the Defense Nuclear Facilities Safety Board

AGENCY: Department of Energy.

ACTION: Notice and Request for Public Comment.

SUMMARY: Pursuant to section 315(b) of the Atomic Energy Act of 1954, as amended, 42 U.S.C. 2286d(b), the Department of Energy (DOE) hereby publishes notice of the response of the Secretary of Energy (Secretary) to Recommendation 90-1 of the Defense Nuclear Facilities Safety Board, 55 FR 7022 (February 28, 1990), concerning restart of K, L, and P reactors at DOE's Savannah River site. DOE hereby requests public document on the response of the Secretary to Recommendation 90-1.

DATES: Comments, data, views, or arguments concerning the Secretary's response are due on or before [insert date 30 days from date of publication].

ADDRESSES: Send comments, data, views, or arguments concerning the Secretary's response to: Defense Nuclear Facilities Safety Board, 600 E Street, N. W., Suite 675, Washington, D. C. 20004.

FOR FURTHER INFORMATION:

Steven Blush, Director, Office of Nuclear Safety, Department of Energy, 1000 Independence Avenue, S. W., Washington, D. C. 20585.

Dated: [insert date]

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Steven Blush

Director

Office of Nuclear Safety

Response of the Secretary of Energy to Defense Nuclear Facilities Safety Board Recommendation 90-1, Restart of K, L, and P Reactors at DOE Savannah River site, South Carolina

Dated: [insert date of Secretary signature]

Recommendation a: That DOE determine and specify the qualifications that reactor plant operators and supervisors will be required to demonstrate before restart of the K, L, and P reactors.

Response: DOE accepts this recommendation. Qualification requirements for the K, L and P reactor operators, senior reactor operators, and certified supervisors are specified in DOE Order 5480.6, "Safety of Department of Energy-Owned Nuclear Reactors" dated September 23, 1986. Order 5480.6 specifies that American Nuclear Standard (ANS) 3.1, (1981) "Selection, Qualification and Training of Personnel for Nuclear Power Plants," shall be the basis for qualification and training requirements for reactor personnel and that the requirements of ANS 3.1 shall be selectively applied as appropriate to the specific facility. Site specific plans have

already been developed at Savannah River to specify those qualification requirements that senior reactor operators and certified supervisors[1] will be required to demonstrate before restart of the K, L and P reactors, consistent with the Board's recommendations, are as follows:

a) Education: The minimum education level for senior reactor operators and certified supervisors is a high school diploma unless otherwise approved by DOE on a case-by-case basis. In addition, at least one certified supervisor per shift must have a Bachelor of Science degree in an engineering or related science field.

b) Experience: Senior reactor operators must have 2 years of reactor experience, including 6 months on site. Certified supervisors must have 3 years of reactor experience, including 6 months on site. In addition, the Control Room supervisor must have a minimum of 6 weeks experience at the Savannah River Site (SRS) reactor operating at or above 20 percent rated power.

c) Training:

1) Senior reactor operators and certified supervisors must complete their certification and restart training programs which consist of the following classroom training:

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[1]Senior Reactor Operators at Savannah River are analogous to licensed Reactor Operators at commercial plants. Certified supervisors at Savannah River are analogous to Licensed Senior Reactor Operators at commercial plants with the exception that supervisors at the Savannah River Site are not required to have been certified to manipulate controls since SRS operators and not supervisors manipulate controls.

	Hours Certified Supervisor/Senior Reactor Oper.
Fundamentals	242/146
Plant Technology, Systems and Procedures	321/193
Operating Practices	206/126
Industry Experiences/Modifications Training	34/34

Written examinations are administered in each area and a minimum passing grade of 80 percent is required.

(2) Certified supervisors and senior reactor operators must also complete simulator training (164 hours) that consists of a program of manipulations intended to enhance proficiency, including 2 evaluated reactor control manipulations within 6 months prior to restart.

(3) The operators and supervisors must also complete an 80-hour, structured on-the-job training program designed to increase operator knowledge of plant systems and integrated systems operation. Additionally, certified supervisors and senior reactor operators will already have completed 1480 or 520 hours, respectively, of on-the-job training as part of their initial certification training.

d) Medical: Personnel assigned to senior reactor operator or certified supervisory positions must meet the medical requirements specified in American National Standards Institute/American Nuclear Society (ANSI/ANS) 3.4, "Medical Certification and Monitoring of Personnel Requiring Operator License for Nuclear Power Plants."

e) Fitness for Duty: All employees of the contractor operating the SRS reactors, Westinghouse Savannah River Company (Westinghouse) and employees of subcontractors who have

unescorted access to reactor facilities are subject to preemployment drug testing, for cause drug testing, and random drug testing.

Certified supervisors and senior reactors operators demonstrate fulfillment of training qualifications by passing a combination of written exams, practical exams, oral and operating exams and simulator exercises prior to restart. The exams are administered by Westinghouse, but DOE reviews the examination process and the results. Additional information about DOE's review of the contractor's program is included below in response to recommendation c.

Prior to restart, DOE will conduct its own operational readiness review in order to verify that certified supervisors and senior reactor operators have the requisite skills and knowledge to assure safe operations. DOE personnel with experience in commercial nuclear training and operations and necessary SRS training will lead the review and will monitor pre-startup control room evolutions as well as simulator exercises.

Additionally, as discussed below in response to recommendation b, each shift crew is being supplemented by the addition of a certified supervisor (other than the control room supervisor) who has been qualified as a Shift Technical Engineer, and by the interim assignment of a Shift Advisor. These additions are being made to further augment the educational and experience level of each operating crew (See discussion under II.b. in the response to recommendation b.) The specific training and qualification requirements which have been developed for these two positions are as follows:

a) Shift Technical Engineer: 1) is a certified supervisor, 2) holds a four-year college degree in engineering, or related

physical science, 3) has completed the supervisory certification training plus the following:

Topic	Hrs
Mathematics	60
Classical Physics	24
Nuclear Physics & Reactor Theory	120
Mechanical Components	20
Process Instrumentation	20
Heat Transfer & Fluid Flow	70
Electrical Science	60
Print Reading	20
Safety Envelope & Bases	40
Accident & Transient Analyses	40
Chemistry	30
Material Science	40
Radiation Protection and Health Physics	40
Thermal & Hydraulic Sciences	24
Applied Reactor Physics	32
Change and Discharge Operations	12
Reactor Startup Physics	12
Roles and Lessons Learned	4
Symptom Based Procedures	16
Limits & Safety Analysis	28
Total	712 Hrs.

b) Shift Advisor: 1) is a holder of a license at a commercial reactor within the past 5 years, 2) completed a minimum of five years commercial nuclear experience, and 3) successfully completed SRS training as follows:

Introduction to Reactor Systems	40 hours
Safety and Emergency Procedures	16

Health Protection	3
OSHA Safety Procedures	2

Qualification requirements for senior reactor operators and certified supervisors are currently implemented through the Westinghouse procedure DuPont Savannah Operating Procedure (DPSOP) 38, "Reactor Personnel Selection, Qualification, and Training Manual." This procedure is currently being revised to incorporate the qualification requirements described above which were developed for restart. Following revision, it will be submitted to DOE for approval.

For the longer term, Westinghouse is developing an enhanced certification program for future certified supervisors and senior reactor operators which will provide for additional training beyond that which is required for a safe restart. This program will take into consideration applicable commercial certification guidelines, commercial nuclear knowledge and abilities and current industry good practices. Specific milestones for this program will be approved by DOE prior to restart. Westinghouse is also developing accredited training programs for other Savannah River plant personnel, such as maintenance personnel, instrumentation and control technicians and health physics personnel, comparable to corresponding accredited training programs in the commercial nuclear field.

Recommendation b: That DOE identify any differences between its approved qualifications and those prescribed by NRC for analogous positions in the civilian nuclear power field; that where differences, if any, exist, DOE identify any supplemental measures that have been adopted in view thereof;

Response: DOE accepts this recommendation and has identified the differences between its approved qualifications and those prescribed by the Nuclear Regulatory Commission in Part I. Supplemental measures have been adopted and are discussed in Part II below.

I. Qualifications for civilian nuclear power reactor operators and supervisors are specified in 10 CFR 55 and in the American Nuclear Society standard, ANS 3.1 - 1981 "Selection, Qualification and Training of Personnel for Nuclear Power Plants" as modified by Regulatory Guide 1.8, 1987, "Qualification and Training of Personnel for Nuclear Power Plants." A comparison of qualification requirements for Savannah River senior reactor operators and certified supervisors (described in the response to recommendation a.) and the analogous positions in the commercial nuclear power field is as follows:

a) Education: Both DOE and NRC programs require a high school diploma. DOE has added the requirement that at least one supervisor per shift have a Bachelor of Science degree in an engineering or related science field.

b) Experience: For commercial reactor operators (analogous to SRS senior reactor operators), NRC requires 1 year reactor experience, including 6 months as a nonlicensed operator. SRS requires its operators to have 2 years reactor experience, including 6 months on site. NRC requires that nuclear reactor operators have an additional 2 years of power plant experience but does not require this experience to be nuclear experience. For senior nuclear reactor operators, NRC requires supervisors to have at least 4 years of power plant experience of which 2 years must be nuclear

experience, including 6 months on-site and 6 weeks at a similar facility in operation at or above 20% rated power. The SRS implementation plan for DOE Order 5480.6 requires SRS control room supervisors to have at least 3 years nuclear experience, including 6 months on-site and 6 weeks experience at a SRS reactor facility operating at or above 20% rated power. NRC also requires senior reactor operators to have at least 1 year experience as a licensed reactor operator prior to becoming a licensed senior reactor operator.

c) Training: Both NRC and DOE require completion of a training program consisting of classroom, simulator and on-the-job training. The technical training programs in the commercial industry are generally accredited by industry-sponsored organizations. A comparison of the typical amount of time (in hours) that NRC and DOE programs devote to different training modules follows:

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Note: The Savannah River simulator training hours were established based on the complexity and scope of Savannah River plant systems.

d) Medical: Both NRC and DOE require compliance with the medical requirements specified in ANSI/ANS 3.4, "Medical Certification and Monitoring of Personnel Requiring Operator Licenses for Nuclear Power Plants."

e) Fitness for Duty: A detailed line by line comparison of DOE and NRC fitness for duty requirements has not been made, however the DOE program for drug testing to assure fitness of operators to safely operate the reactors includes preemployment, for cause, and random testing. DOE does not presently test for alcohol. NRC fitness for duty requirements include testing for alcohol.

II. The following supplemental measures will bolster SRS shift capabilities:

a) In order to ensure that adequate engineering fundamentals are present on shift, the function of Shift Technical Engineer (STE) has been added. The STE will perform functions comparable to the position of shift technical advisor in the commercial industry.

b) A Shift Advisor has been created to place an individual with commercial Senior Reactor Operator experience on shift in an advisory capacity to the shift manager. This position is an interim one that will be eliminated when satisfactory performance has been demonstrated by operations personnel. Both the Shift Advisor and the Shift Technical Engineer positions have been created in order to enhance composite shift experience and education.

c) An additional 22 individuals with prior commercial Senior Reactor Operator or navy nuclear experience will have completed initial certification training and will be put in various positions in the reactor operating organization with the goal that a number of

these individuals will eventually become control room supervisors.

d) Changes to operating practices in excess of current DOE requirements will be implemented prior to restart in the areas of: logkeeping, shift turnover, control room demeanor, procedure compliance, event notification, control of equipment status, equipment tagout and other aspects of plant operations. Guidelines developed for conduct of operations in commercial nuclear plants have been utilized in developing improved Savannah River practices in these areas.

e) DOE personnel with experience in reactor operations will continuously monitor restart activities until DOE is satisfied that improvements in the conduct of operations have been implemented.

III. Conclusions. In comparing the qualification of operators and supervisors at the SRS reactors with analogous requirements at commercial reactors, it is important to consider both the numbers of individuals assigned to a shift and the complexities and duties performed by shift personnel. In the commercial nuclear power industry, for a single nuclear reactor, there are 2 licensed senior reactor operators and 2 licensed reactor operators required to be on shift. These individuals perform all control room functions for the reactor plant and the secondary plant including power generation equipment. However, for each SRS reactor, 4 certified supervisors and 5 certified senior reactor operators will be assigned to each shift. The Shift Technical Engineer and Shift Advisor have been added to supplement Savannah River operational staffing.

Recommendation c: That DOE make a comprehensive review of the current level of qualification of each reactor operator and supervisor employing both written and oral examination, so as to establish that the scope and content of the training program will achieve the knowledge prerequisite for restart.

Response: DOE accepts the recommendation that ongoing training efforts need to be continuously reviewed by DOE to ensure that the needed skills and knowledge are attained by reactor operations personnel. Beginning in November 1989 and continuing to the present, DOE and Westinghouse have reviewed each operating crew to ascertain if training objectives are being met. These reviews have focused on written exam results, oral exam results and crew performance during simulator evolutions. DOE personnel participating in these reviews have had extensive experience in the training and licensing of commercial nuclear operations personnel. DOE has also utilized individuals in these reviews who are currently certified by the NRC to conduct operator licensing examinations for commercial reactor operators, and who bring with them an understanding of commercial nuclear operator training and certification practices. Changes have been made to the training programs based on their input, as discussed below.

Prior to restart, DOE and Westinghouse will jointly conduct comprehensive evaluations of certified supervisors and senior reactor operators to ensure that they can demonstrate the appropriate knowledges and abilities required for safe restart. The examinations are intended to be conducted in August 1990 in order to allow for proper development of the examinations and for completion of recent enhancements to the training program.

This evaluation will include performance-based written, oral and operating examinations which include Job Performance Measures

(JPM) and Individual Safety Critical Tasks (ISCT). The examinations will be based on approved "Knowledges and Abilities," written and oral examination questions, and simulator scenarios. Examiners for these evaluations will include peer evaluators from other reactors on site (i.e. P and L reactors for K plant, K and L for P, etc.) and selected instructors.

This examination program will be modeled after the requalification examination program being conducted jointly by the NRC and licensed facilities at commercial nuclear plants. A SRS Specific Knowledges and Abilities (K/A) Catalog will be developed, validated and approved. Standards of performance for both knowledge and ability will be established prior to the examination. This process will focus on safety related skills and knowledges as well as the ability to use tools of the job, such as procedures, piping and instrumentation diagrams (P&ID's), technical specifications and other controlled references. Results of the examinations will be used to define areas where training must be upgraded either prior to restart or as part of the long term continuing training programs. Results of these examinations will also be used to support management decisions so as to ensure that composite crews have the requisite skills for safe restart. Information on individual weaknesses will be referred to the Training Department for use in tutoring or upgrading training, as necessary.

Recommendation d: That the reactor plant operator and supervisor training programs be modified as necessary to take account of the required qualifications and the current state of knowledge and experience of the operators and supervisors as indicated above.

Response: DOE accepts this recommendation and has taken the following actions to implement it. Based upon ongoing DOE and Westinghouse

reviews of the training program, it has been concluded that two areas require strengthening. Specifically, operators and supervisors need increased knowledge in the areas of reactor fundamentals and reactor systems and components. Specific initiatives to address these needs include:

1) Fifteen different "Theory Primers" addressing reactor components, reactor theory, chemistry and thermodynamics are being developed to provide basic supplementary knowledge of reactor fundamentals and theory, to stimulate operator interest, and to facilitate self-study.

2) The ongoing training program will give high priority to fundamentals training, reactor theory training and reactor systems training. These courses are thought to be the most beneficial and logical basis for a long-term program. The course material for this training is still under development. The course will involve approximately 120 classroom or simulator hours covering such topics as refueling, start-up testing and initial operations, technical specifications and reactor theory/reactor physics. These courses will be conducted during the first 3 cycles of continuing training.

3) To promote operator self-study, a "Fundamentals Test Out" program has been implemented. This program provides a financial incentive for operations personnel to use self-study material in the areas of mathematics and physics by providing a financial payment to personnel who successfully complete an exam based on the self-study material.

4) A two-phase testing program is being employed to identify individuals with a low probability of successfully completing the training program and performing to expected

standards and to establish a baseline for input to continuing training. Phase I includes on-going job-specific performance evaluations for those persons who receive low scores on written or oral exams. Individuals not successful during the Phase I program will be provided remedial training to improve their skills and then they will be retested. Phase II identifies weaknesses in the level of operator knowledge in mathematics and science in order to supplement the continuing training program accordingly. This phase will be completed prior to June 1, 1990.

Recommendation e: That DOE accelerate implementation of a configuration management program to help assure that as-built drawings of safety related systems are available for training of operators and supervisors in procedures and for discipline of operations (e.g. valve line-ups).

Response: Based on the assumption that by "configuration management" the Board means that set of procedures and controls used to ensure that the as-built configuration of the plant is reflected in appropriate drawings, procedures and other documents, DOE accepts this recommendation. Westinghouse has recently accelerated efforts in this area and will develop accurate operational flow diagrams for all reactor safety systems prior to restart. These diagrams will be used by operations personnel to establish equipment and system lockouts and valve lineups, conduct trouble shooting, and perform other systems related activities. Prior to restart, the operations staff will be trained in the use of the appropriate diagrams needed for these applications.

Recommendation f: That the operators and supervisors be qualified in use of the revised procedures that will be in place for normal operations and for emergency situations.

Response: DOE accepts this recommendation. A deliberate program to train operations personnel on the revised procedures is an integral part of the restart training program. Westinghouse requires procedure revisions to be reviewed by reactor supervisors, control room supervisors and building operators on a monthly basis. In addition, the Westinghouse training department receives new procedures as well as proposed procedure revisions from the other departments to ensure that procedure changes are properly incorporated in the training program, including the simulator.

Written examinations, oral examinations, simulator examinations and control room operation will be used to demonstrate prior to restart that personnel are qualified in the use of revised normal and emergency procedures. DOE will participate with Westinghouse in the evaluation of these examinations and will conduct an independent overview of control room practices.

Senator EXON. Will the training goals identified in the Department of Energy response to the Safety Board recomm ndation and the necessary training be completed prior to restart?

Secretary WATKINS. Those activities that the Board recommended be implemented prior to restart will be implemented prior to restart, as delineated in the Secretary's April 10, 1990 letter to the Board.

Senator EXON. What impact will this have on the restart schedule?

Secretary WATKINS. These actions required prior to restart, as defined in the April 10, 1990 letter, to implement the DNFSB recommendations can all be completed within the currently projected schedule which calls for restart of K-reactor for low power testing in December 1990. Following low power testing to verify proper operation of the reactor, power operations could begin as early as late December or early January. The P-reactor will be ready for restart for low power testing in March 1991, with power operation in April 1991; and the L-reactor will be ready for low power testing in September 1991, with power operation in October 1991.

GAO REPORT ON SAVANNAH RIVER

Senator EXON. A December 1989 GAO report identified deficiencies in the seismic upgrade efforts at Savannah River. What actions have been taken since the report?

Secretary WATKINS. Since the report was issued, the Savannah River Site Seismic Qualification Plan and Procedure has been revised. There is an ongoing effort to seismically qualify the reactor safety systems for K-reactor prior to restart. Seismic upgrades that have been identified by the qualification process are currently in progress.

Senator EXON. What actions will be taken before restart?

Secretary WATKINS. Prior to restart, the contractor will continue to seismically qualify and upgrade the reactor safety systems. Additional effort that is required as a result of DOE review or DNFSB oversight will be performed before restart.

Senator EXON. Have these decisions been reviewed and approved by either the Advisory Committee on Nuclear Facility Safety or the Defense Nuclear Facilities Safety Board?

Secretary WATKINS. The Defense Nuclear Facilities Safety Board is currently reviewing seismic issues related to the Savannah River reactors. The Advisory Committee on Nuclear Facility Safety (ACNFS) is reviewing seismic issues only within the context of the Savannah River Probabilistic Risk Assessment (SRPRA).

ROLE OF ADVISORY BOARDS

Senator EXON. What role will the Advisory Committee on Nuclear Facility Safety and the Defense Nuclear Facilities Safety Board play in the restart of the reactors?

Secretary WATKINS. Because the DNFSB is assuming its statutory responsibilities for Savannah River oversight, the ACNFS is ceasing oversight of Savannah River reactor restart activities and will provide all their remaining issues and unresolved questions to the DNFSB by May 30, 1990. They will continue their review of the SRPRA through its completion. The DNFSB is actively reviewing the Department's efforts to restart the reactors and has already recommended certain actions which we have agreed to complete prior to restarting the reactors.

Senator EXON. Will they have veto authority?

Secretary WATKINS. Neither the ACNFS nor the DNFSB has statutory authority to veto actions of the Department. As a practical matter, the Department will address safety issues raised by either advisory body prior to restart.

EIS FOR ROCKY FLATS

Senator EXON. Does an environmental impact statement need to be prepared or the existing environmental impact statement supplemented before production can be resumed at Rocky Flats?

Secretary WATKINS. Operations at Rocky Flats are currently addressed in the Rocky Flats Site Environmental Impact Statement issued in 1980. Resumption of operations does not constitute a major Federal action within the meaning or intent of the National Environmental Policy Act (NEPA), and therefore neither an EIS nor supplementation of the existing EIS is required under NEPA prior to resumption.

BUILDINGS 371 AND 771

Senator EXON. The Department of Energy has proposed building an addition to Building 371. Is this proposal in lieu of or in addition to a rehabilitation of Building 771?

Secretary WATKINS. The modification of Building 371, including an addition, is intended to provide a replacement to plutonium processing facilities in Buildings 771 and 776. Until the project is completed and started up, repairs and modifications to 771 and 776 must continue, to ensure that Rocky Flats can recycle residues from the manufacturing process and can continue to reclaim material from retired weapons. No addition to building 771 is planned.

EIS FOR BUILDING 371

Senator EXON. The Department of Energy has announced its intention to prepare an environmental impact statement for this Building 371 addition, which is generally referred to as the Plutonium Recovery Modification Project (PRMP). What is the status of the environmental impact statement and what are the alternatives that will be considered?

Secretary WATKINS. The environmental impact statement process will begin with the publication of a Notice of Intent in the Federal Register in late May or early June. At this time, the alternatives that are proposed to be considered are the no action alternative (keep plutonium operations in Buildings 771 and 776), constructing the PRMP, partially relocating plutonium processing to another site, and totally relocating processing to another site. The machining operations would continue to be accomplished at Rocky Flats under all of the alternatives.

Senator EXON. Will you have made a decision whether to move the Department's plutonium reprocessing and manufacturing capability from Rocky Flats before a final decision is made on the PRMP?

Secretary WATKINS. A decision to move plutonium operations from Rocky Flats cannot be made before a full site location study and environmental impact statement, to include public hearings, are completed. This process can be involved and could take between 3 to 5 years to accomplish. The PRMP is necessary to provide the required processing capability until such a proposed new site could be funded,

designed, constructed, and made operational. The Department has estimated that such a move could take at least 20 years to complete. At the same time, new technology that has been developed allows the DOE to reduce waste, reduce worker radiation exposure, and improve the safety margins against environmental insult from an accident.

PRMP

Senator EXON. What is the anticipated operating life of the PRMP?

Secretary WATKINS. The nominal operating life of the PRMP is 20 years.

Senator EXON. What role will the PRMP play in any decontamination and decommissioning of the facility?

Secretary WATKINS. The materials that are handled during reprocessing of plutonium residues from manufacturing operations and from decommissioning of a plutonium facility are very similar. Both kinds of residues must be volume reduced and chemically treated to dissolve and recover the plutonium. Thus, the PRMP facility, after providing manufacturing recovery capability for a number of years, can then provide processing for the wastes produced during cleanup and cleanout of decommissioned facilities on the site.

Senator EXON. What role will the Advisory Committee on Nuclear Facility Safety and the Defense Nuclear Facilities Safety Board play in reviewing the resumption of operations at Rocky Flats and in reviewing plans for the PRMP?

Secretary WATKINS. Both the ACNFS and the DNFSB are reviewing the Department's plan to resume operations at Rocky Flats. The Department has not requested the ACNFS to review the plans for the PRMP. The DNFSB is an independent body and the Department cannot direct it to review any particular matter. However, I do anticipate DNFSB review of our PRMP plans.

Senator EXON. Will either the Advisory Committee on Nuclear Facility Safety or the Defense Nuclear Facilities Safety Board have veto authority over the decision to restart?

Secretary WATKINS. Neither the ACNFS nor the DNFSB has statutory authority to veto actions of the Department. As a practical matter, the Department will address safety issues raised by either advisory body prior to restart.

TIGER TEAM REVIEW

Senator EXON. The Savannah River Tiger Team did not review the reactors, the Defense Waste Processing Facility, the canyons, and several other of the major operations at the sites. Why were these areas excluded from Tiger Team review and when will they be reviewed?

Secretary WATKINS. The Savannah River Tiger Team did not review the reactor operations because of the extensive reviews which have taken and continue to take place as part of the restart effort. Because of the complexity of operations at the Savannah River Site, the technical teams reviewed representative operations of facilities rather than all of the site operations. In accordance with the Tiger Team guidance manual, the emphasis was placed on current environment, safety, and health compliance status and root causes for noncompliance, adequacy of DOE and site contractor ES&H management programs, and response actions to address identified problem areas. Certain programmatic aspects of the Defense Waste Processing Facility and the canyons were reviewed as a part of the assessment (i.e., environmental programs/procedures, Occupational Safety and Health Act (OSHA) reviews).

WIPP

Senator EXON. When will Rocky Flats have the capability to load the TRUPACT II shipping container and ship directly to the Waste Isolation Pilot Plant (WIPP)?

Secretary WATKINS. Although a TRUPACT II loading facility does not currently exist at Rocky Flats, efforts are underway to have a temporary loading facility online by December 1990. This facility will have the capability to load wastes for the WIPP test phase and ship to the WIPP.

Senator EXON. Are you going to be in a position to ship the transuranic (TRU) waste from Rocky Flats when the WIPP opens?

Secretary WATKINS. Yes. As stated in the response in another question, the capability at Rocky Flats to load and ship waste to the WIPP for the test phase will exist by December 1990. Although the Department will not announce the status of the WIPP's readiness to initiate the test phase until mid-June, the Rocky Flats schedule does not appear to be inconsistent with the WIPP test phase schedule.

STATUS OF EISS

Senator EXON. What is the status of the environmental impact statements that the Department of Energy has committed to do in the 5-year plan for environmental restoration and waste management and the modernization plan?

Secretary WATKINS. The Department announced on January 12, 1990, that the DOE will prepare two major programmatic environmental impact statements (EISs) related to waste management and the modernization of the nuclear weapons complex. We are in the early planning stages for these EISs.

One programmatic EIS will address the proposed waste management and environmental restoration program, which was first outlined in the Secretary's "Five-Year Plan" in July 1989. This programmatic EIS will evaluate alternative approaches to resolving the Department's nuclear and hazardous wastes problems, including treatment, storage, and disposal options. This EIS is in the preliminary planning stage. We expect to initiate the public scoping process during the summer of 1990 with publication of a formal Federal Register Notice of Intent to prepare an EIS. A number of public meetings will be held to receive comments on the proposed scope of the EIS.

The second programmatic EIS will address environmental issues related to the Department's long-term plans to modernize the aging nuclear weapons complex. The Department will use the programmatic environmental review as a planning tool to guide decision-making with regard to the future of the weapons complex. The proposed scope of this programmatic EIS will be based on the recommendations of the Modernization Review Committee (MRC) Report, which is not expected until late calendar year 1990. Accordingly, a formal Notice of Intent to prepare an EIS on the modernization program is not expected until late 1990.

REACTOR RESTART

Senator EXON. The current Department of Energy plan is to restart K-reactor first and then P- and L-reactors. The Natural Resources Defense Council has threatened suit to prevent restart of K-reactor because it lacks a cooling tower. What contingency plans have you made if you are prevented from restarting K-reactor?

Secretary WATKINS. There is no viable alternative to the SRS reactors for producing tritium in the near term. There is little or no slack in the schedules for restarting the P- and L-reactors. If the restart of the K-reactor were to be delayed until the cooling tower is completed, the DOE would have to rely on the L- and P-reactors to supply our tritium needs. The Department is in the process of analyzing how the projected supply of tritium would be affected by the potential delay of the restart of K-reactor.

Senator EXON. What is the impact on tritium if you are unable to resume operations at K-reactors?

Secretary WATKINS. Without tritium production in K-reactor the Department of Energy tritium inventory will be reduced to minimum working levels [deleted].

QUESTIONS SUBMITTED BY SENATOR EDWARD M. KENNEDY

NUCLEAR TESTING

Senator KENNEDY. In a recent report to Congress, the Department of Energy recommended a 10-year timetable of stepped-up nuclear testing before the United States accepts any further limitations on testing beyond the current 150 kiloton threshold. This approach is badly out of step with the policies of the vast majority of nations, including most of our allies, who support resumption of negotiations leading to a comprehensive test ban. Without some movement in our present position on the test ban, the United States runs the very real risk of being perceived as an obstacle in the global effort to contain nuclear weapons proliferation. We also are leaving the door open to new and possibly destabilizing advances in nuclear weapons technology by the superpowers, thereby undermining the strategic stability we seek to establish in the Strategic Arms Reduction Talks (START) negotiations. Are you concerned that the actions and attitudes of your Department on the nuclear testing issue may undermine international efforts to further limit nuclear weapons proliferation and achieve strategic stability in our military relationship with the Soviet Union?

Secretary WATKINS. We believe that the report to which you referred, "Annual Report to Congress on the Program Status of Preparations for Further Limitations on Nuclear Testing," is not only consistent with the January 1990 policy statement

of the President on nuclear testing, but also is responsive to direction provided by Congress in section 1436 of the National Defense Authorization Act of fiscal year 1989.

In his January 1990 statement, President Bush said that the United States has a step-by-step approach to further limits on nuclear testing with current efforts concluding verification protocols for the Threshold Test Ban and Peaceful Nuclear Explosions Treaties (TTBT/PNET). He has indicated that observation of the verification procedures is a necessary step prior to determining additional moves. We will ask the national laboratories to identify possible next steps and evaluate the costs, in national security terms, of each alternative. The report that will result will be used as the basis for developing policy on further limitations.

NUCLEAR DIRECTED ENERGY WEAPONS

Senator KENNEDY. Despite the repeated Soviet offers to negotiate a test ban or further limitations on nuclear tests, your Department continues to justify its $192 million request for nuclear directed energy weapons as a "threat assessment" of potential weapons that might be developed by the Soviet side. Now, I find that justification to be a bit disingenuous, frankly. It is certainly not Gorbachev who is arguing that this particular Pandora's box be kept open. In light of the new geopolitical situation, and our changing relationship with the Soviet Union, are you giving any thought to scaling back or terminating the nuclear directed energy weapons program, or at least changing the justification to reflect the real situation—that it is really the Department of Energy's desire to press ahead in this area?

Secretary WATKINS. The Department of Energy is continuing to work in the area of nuclear directed energy weapon (NDEW) research in an effort to evaluate the potential effect that these concepts could have on our current strategic deterrent forces or future strategic defense architectures. We are also working with the intelligence community in an effort to better define the scope of NDEW research being conducted by the Soviet Union. These updated intelligence assessments will have an impact on where our future NDEW resources will be applied.

The NDEW program has been scaled back over the past several years with the reduction of concepts being investigated from four to three. Additionally, the resources applied to NDEW research have consistently been reduced since fiscal year 1987. For example, the fiscal year 1987 appropriation was $349 million (includes $32 million transfer from the Department of Defense appropriation), fiscal year 1988 was $279 million, fiscal year 1989 was $255 million, and fiscal year 1990 was $220 million. The request by the President for fiscal year 1991 is $191.9 million, a decrease of about $28 million from the fiscal year 1989 appropriation. The scope of the NDEW research effort requested for fiscal year 1991 reflects a DOE requirement that has been balanced against other competing needs. These resources will enable the DOE to pursue the threat assessment part of the mission through investigation of the substantial threat that could result from the introduction of NDEW technology into the Soviet arsenal.

NUCLEAR WEAPONS DESIGN LABORATORIES

Senator KENNEDY. In light of the reduced Soviet military threat and the U.S.S.R.'s willingness to negotiate both interim testing constraints and a comprehensive ban, are you looking at plans that might result in the consolidation of the nuclear weapons laboratories? The Cold War is over. The Soviet military threat to Europe is now much reduced and will be further reduced in the months and years ahead. Why do we need to maintain the same system of competing nuclear weapons design laboratories that was instituted at the height of the Cold War?

Secretary WATKINS. As long as the United States relies on a nuclear deterrent as a major component of its defense posture, we must maintain the nuclear competence which resides in our laboratories. The nuclear stockpile, regardless of its size or complexity, must be maintained for operational readiness and safety. New technology will also need to be incorporated into the stockpile to enhance survivability, safety, and security, especially if the stockpile is reduced in size.

Laboratory structure for future weapons work may well be different than today's organization or configuration. We have been considering the optimum weapons complex of the future and expect our new study to be completed later this year. In all our thinking in regards to the future of the weapons program, all three laboratories play an essential role. As national assets, they are also well equipped and uniquely qualified to bring their expertise to bear on some of the Nation's most pressing nondefense problems.

As a result of their weapons activities, our national laboratories have developed extensive technical expertise which can be brought to bear on problems ranging from the environment to energy, waste management, communications, mathematics and the sciences, and space exploration. It is also important to consider that the concept of design competitiveness in our nuclear design laboratories is not related to the Cold War, past or present. It is a result of our desire to provide the national nuclear deterrent with an enhanced assurance that our weapons are effective and safe. We do not plan to divest the Nation of the capability embodied in our national weapons laboratories.

PROPOSAL TO EXPLORE WARHEADS

Senator KENNEDY. In light of the agreed goal of the START talks—lower levels of stable, mutually survivable nuclear forces—why is your Department proposing to explore warheads, such as the strategic earth penetrator and the high power microwave weapon?

Secretary WATKINS. The START talks are to reduce the number of strategic nuclear assets and, by so doing, provide a more stable (less threatening) world environment. Because of the decrease in the number of nuclear weapons, the military value of each of the remaining ones would increase. The forces remaining after any START agreement must be adequate to sustain the nuclear deterrent. They must be survivable and stabilizing—that is, they must counter potential future threats. Investigation of new weapons concepts is consistent with this approach and will eventually result in a different strategic nuclear weapons mix.

The strategic earth penetrating weapon (SEPW) is intended to disable inground targets with ground shock. This type of weapon has several advantages. Ground shock is effective against underground hardened structures such as missile silos, communication facilities, or command-and-control centers. Weapons of lower yield may be used in order to achieve the same effects; hundreds of kilotons may be used instead of tens of megatons. Lower yields imply less collateral damage, fallout, communication disruption, and special nuclear material usage. Holding these foreign assets at risk is consistent with the Department of Defense policy, and the SEPW is more efficient than current weapons.

The high-power microwave weapon is intended to electronically neutralize a large area. Wide area coverage from a single weapon is more efficient than multiple bursts of standard nuclear weapons in order to achieve the same effects. With a fewer total number of nuclear weapons, fewer would be available for support of the primary strategic retaliatory strike mission. Disabling the ground control radars and fighter intercepter control facilities is pivotal if the bomber force is to be able to penetrate defenses and is to remain a credible deterrent. In addition, this class of weapon may be useful in delaying a second strike mobile intercontinental ballistic missile (ICBM) attack by burnout of ground control electronics—study is still underway.

FISSILE MATERIALS BAN

Senator KENNEDY. Coming out of last year's conference agreement on the defense authorization bill was a requirement for a report on monitoring and policy issues involved in a ban on the production of fissile materials for weapons. What progress has the Department been making in examining the technical and policy aspects of such a fissile materials cutoff agreement?

Secretary WATKINS. The Department of Defense has the lead role in drafting the required report. Other interested departments and agencies are also contributing to the drafting process. The DOE has been examining and reporting on nuclear materials cutoff technical issues for many years, and our technical expertise in this area will be reflected in the report.

Senator KENNEDY. Will the Department of Energy have a report ready by July 15, the date called for in the conference report?

Secretary WATKINS. The administration plans to have the required report from the President completed for submission in both classified and unclassified form to the designated committees not later than July 15, 1990.

VERIFIABLE NUCLEAR WARHEAD DISMANTLEMENT

Senator KENNEDY. What progress have you been making in examining the issues involved in verifiable nuclear warhead dismantlement?

Secretary WATKINS. At some future date, a requirement of arms control agreements may be the ability to verify the destruction of nuclear warheads. Such a re-

quirement would introduce a number of complicated issues with which the Department of Energy must be deeply involved. Therefore, on a contingency basis, we are continuing research started several years ago to examine issues, alternative approaches, and resource requirements associated with the dismantlement problem. Our efforts include examining not only the technology and facility requirements, but also the resource, protection of sensitive design information, and verification requirements associated with dismantling warheads in a safe, secure, and verifiable manner.

PLUTONIUM PRODUCTION COMPLEX

Senator KENNEDY. Given the state of our plutonium production complex, would it appear to be in the U.S. interest to shut down the Soviet plutonium complex as well? What explains the apparent Department of Energy reluctance to pursue this issue with the Soviets?

Secretary WATKINS. The Department of Energy is not the policy agency responsible for negotiations on these matters. That is the responsibility of the Department of State.

Senator KENNEDY. Couldn't the Department of Energy begin technical discussions and undertake verification demonstrations now with its Soviet counterparts, before beginning formal negotiations on this subject? Wouldn't that be a sufficient safeguard against overburdening the current arms control agenda?

Secretary WATKINS. The Department of Energy does not have the authority to enter into independent technical discussions as described in your question.

PLUTONIUM PROCESSING MISSION

Senator KENNEDY. It is difficult to evaluate the Department of Energy's request for improvements to production facilities at particular sites without knowing what the future of all these sites is likely to be in the long run. Consider the case of Rocky Flats. Does it make sense to invest $600 million—and likely even more than that—in a new plutonium processing facility at Rocky Flats over the next few years, when everyone agrees that for health and safety reasons it makes more sense for the plutonium processing mission to be shifted to a less populated area with a different pattern of prevailing winds?

Secretary WATKINS. It has been estimated that physically moving the Rocky Flats plant could cost in excess of $4 billion. In addition, it could take approximately 20 years to accomplish, including site selection, environmental documentation and hearings, design, construction, and finally, startup activities. Until such time as a new facility is ready, Rocky Flats will need the processing capability that will be provided by the PRMP. This means that the PRMP would continue to be used for many years after it is completed. At the same time, new technology that has been developed allows the DOE to reduce waste, reduce worker radiation exposure, and to improve the safety margins against environmental insult from an accident.

Senator KENNEDY. You say in your prepared statement that the proposed PRMP at Rocky Flats is needed "to give us the capability to eventually close-out plutonium operations at Rocky Flats and do the environmental restoration work needed to bring the site back to an acceptable level." What fraction of the total cost of the plutonium recovery project is accounted for by the capabilities needed for decontamination and environmental restoration, and what fraction of the cost is accounted for by plutonium processing capacity for the warhead production mission?

Secretary WATKINS. The PRMP is being proposed as a plutonium recovery facility. At the same time, new technology that has been developed allows the DOE to reduce waste, reduce worker radiation exposure, and to improve the safety margins against environmental insult from an accident. The mission of the PRMP is to recycle the residues produced from the weapons manufacturing process located at Rocky Flats. If the mission is eventually moved to a new site in the future, the same equipment, with a few modifications, should be able to process the residues and wastes that result during the decontamination and decommissioning of the rest of the plant. Since the same capabilities will be used for both decontamination and environmental restoration activities and plutonium reprocessing activities, it is not possible to determine precisely a cost allocation at this time.

QUESTIONS SUBMITTED BY SENATOR STROM THURMOND

SIS IN REPLACEMENT OF ROCKY FLATS PLANT

Senator THURMOND. Even though I know that Rocky Flats will not open until it is safe to do so, we all would prefer to see the Rocky Flats plant replaced with the newest technology at another location. I am disappointed that you canceled the Special Isotope Separation (SIS) plant, since that could have been the state-of-the-art technology for a new plant. Will you include SIS technology in a replacement for Rocky Flats?

Secretary WATKINS. Some of the SIS technology is already being incorporated in the design of the PRMP, particularly in the chemical separations, radiation exposure reduction, and materials handling areas, and will also be included in any newer plant in the future. However, the function of Rocky Flats is chemical separation, not isotope separation. Whether SIS technology will be utilized in the Rocky Flats replacement facility will depend on the need for specific plutonium isotopes in the future, and whether isotope separation should be situated at that location.

ENVIRONMENTAL COMPLIANCE IN OLDER FACILITIES

Senator THURMOND. Can you comply fully with all environmental laws in the existing older facilities or do we need new ones?

Secretary WATKINS. The Department is committed to meeting all environmental laws and regulatory requirements at its facilities. Compliance with these requirements is a fundamental criterion in the Nuclear Weapons Complex Modernization Study now ongoing in the Department. The answer to the question regarding the need for new facilities to meet environmental requirements is that, in general, existing older facilities can be upgraded to meet environmental laws. However, decisions on whether to upgrade or build new facilities being addressed in the Modernization Study involve a larger set of requirements and constraints. These include:

—Environmental laws, regulations, and DOE requirements;
—Safety and health laws, regulations, and DOE requirements;
—DOD requirements as authorized by the President;
—Safeguards and security requirements;
—Arms control agreements;
—Political and social realities; and
—Availability of funds.

Therefore, decisions on whether to upgrade existing facilities or to build new ones will be based on many factors.

ENVIRONMENTAL IMPACT STATEMENTS

Senator THURMOND. Did I hear you say that you will do a separate "programmatic environmental impact statement" for each Department of Energy facility? Will these intervenors have 17 chances to stop nuclear weapons production?

Secretary WATKINS. I announced on January 12, 1990, the Department will prepare two major programmatic environmental impact statements (EISs) related to waste management and the modernization of the nuclear weapons complex. One programmatic EIS will address the proposed waste management and environmental restoration program, which was first outlined in the five-year plan in July 1989. This programmatic EIS will evaluate alternative approaches to resolving the Department's nuclear and hazardous waste problems, including treatment, storage, and disposal options. The second programmatic EIS will address environmental issues related to the Department's long-term plans to modernize the aging nuclear weapons complex. The proposed scope of this programmatic EIS will be based on the recommendations of the Modernization Review Committee Report, which is expected in late calendar year 1990.

It is possible that intervenors may choose to challenge the adequacy of these EISs. However, I have stated repeatedly that I intend that the Department comply fully with the letter and spirit of the NEPA. I believe we can withstand any potential legal challenge. Moreover, preparation of these programmatic EISs provides the opportunity for public review and comment on the environmental impacts of our proposals and will serve as a valuable tool in DOE planning and decision-making.

On a separate matter, the Department will also be considering whether it will be advisable to prepare "sitewide" EISs at any of its facilities. A decision to prepare such a document will be made in order to demonstrate continuing compliance with

the NEPA, and therefore will serve to prevent unnecessary litigation over NEPA compliance.

SOVEREIGN IMMUNITY

Senator THURMOND. You may be aware that both the House and Senate are considering proposed legislation that would waive the sovereign immunity of your Department with regard to compliance and enforcement of environmental requirements at Department of Energy sites. What impact would such a law have on the Department and those who operate the sites?

Secretary WATKINS. Sovereign immunity has already been waived with regard to Federal facilities' obligation to comply with some environmental requirements. The DOE is firmly committed to coming into compliance with applicable environmental laws. Achieving full compliance is the Department's top priority. The legislation that Congress is currently considering would extend the waiver to such enforcement options as fines and penalties and administrative orders under the Resource Conservation and Recovery Act (RCRA) and under comparable State laws. The DOE recognizes the important role of the States in ensuring compliance. We are concerned, however, that an expansion of State enforcement options, by itself, may be counterproductive to our cleanup efforts.

Granting States the authority to impose fines and penalties could result in allowing priorities to be determined on a basis other than cleaning up the most serious problems first. One concern is that granting States this authority might cause a manager to seek first to minimize fines and penalties, rather than addressing the worst problems first. A second concern is that fines and penalties could impede cleanup efforts because they will divert funds from accounts that otherwise would be used to clean up facilities. A third concern is the process for spending Federal funds responsibly; marshalling other resources, such as trained manpower; and developing technology for environmental restoration, should not be based on the comparative aggressiveness of States or the comparative complexity or simplicity of State administrative procedures.

In our view, prioritization of environmental cleanup of Federal facilities would be most efficiently based on a rational procedure having a national perspective. We believe that the best course of action would be to establish priorities in a way that would accomplish the most good for the public health and the Nation as a whole. Accordingly, we believe that legislation addressing waiver of sovereign immunity should be amended to include a prioritization process whereby the Nation addresses its worst environmental problems first. Such a process must include the States as key players if it is to be successful.

To assist in establishing the prioritization process, we believe that sovereign immunity should not be waived for fines and penalties regarding cleanup violations until that process is in place. Once the prioritization process is in place, and Federal agencies are working within that framework, then it would be appropriate to waive sovereign immunity for actions which violate that process. We are working to incorporate this type of long-range planning into any bill addressing this issue so that we may be assured of prompt implementation of a rational and orderly national environmental compliance and cleanup strategy.

Senator THURMOND. What impact would it have on cleanup, restoration, and modernization priorities at Department of Energy sites?

Secretary WATKINS. As noted in the answer to the previous question, we are working to develop proposed amendments that would include a process for establishing agreed-upon environmental priorities. Absent such prioritization, we are concerned that attempts could be made to use fines and penalties to force DOE action on problems of local concern, resulting in less serious compliance or cleanup problems being addressed ahead of more serious problems, or could divert limited resources away from environmental purposes altogether.

FUTURE STOCKPILE REQUIREMENTS

Senator THURMOND. What guidance have you been given by the administration regarding the size and composition of a future stockpile? Don't you need such guidance to plan the rebuilding of the complex?

Secretary WATKINS. Yes, such guidance is needed to plan the rebuilding of the complex. The administration is reviewing future stockpile requirements and will provide that guidance in the next few months. Since the stockpile size could change significantly, the DOE is conducting its modernization analyses around several options which bracket the range of reasonably foreseeable stockpile levels. A formal

decision concerning the future configuration of the complex will not be made without definitive guidance on the size of the stockpile.

[Whereupon, at 11:53 a.m., the committee adjourned, subject to the call of the Chair.]

DEPARTMENT OF DEFENSE AUTHORIZATION FOR APPROPRIATIONS FOR FISCAL YEAR 1991

THURSDAY, MAY 10, 1990

U.S. SENATE,
COMMITTEE ON ARMED SERVICES,
Washington, DC.

ALTERNATIVES FOR INCREASING THE UTILIZATION OF RESERVE FORCES

The committee met, pursuant to notice, at 9:05 a.m., in room SD-G50, Dirksen Senate Office Building, Senator Sam Nunn (chairman) presiding.

Committee members present: Senators Nunn, Exon, Dixon, Glenn, Shelby, Warner, Thurmond and McCain.

Committee staff members present: Marie Fabrizio Dickinson, assistant chief clerk, and Daniel G. Sakura, research assistant.

Professional staff members present: Creighton Greene, John J. Hamre, David S. Lyles, Michael J. McCord and Frederick F.Y. Pang.

Minority staff members present: Patrick A. Tucker, minority staff director and counsel; Romie L. Brownlee, deputy staff director for the minority; and George K. Johnson, Jr., professional staff member.

Staff assistants present: Mary J. Kampo, Cindy Pearson, and Debra A. Rice.

Committee members' assistants present: Andrew W. Johnson, assistant to Senator Exon; Kenneth N. Luongo, assistant to Senator Levin; Charles C. Smith, assistant to Senator Dixon; Phillip P. Upschulte, assistant to Senator Glenn; Terence M. Lynch, assistant to Senator Shelby; Melvin G. Dubee, assistant to Senator Byrd; Anthony H. Cordesman, assistant to Senator McCain; Robert M. Soofer, assistant to Senator Gorton; Charles G. Pearcy, assistant to Senator Lott; and Eric H. Thoemmes, assistant to Senator Coats.

OPENING STATEMENT OF SENATOR SAM NUNN, CHAIRMAN

Chairman NUNN. The committee will come to order. The Armed Services Committee meets this morning to receive testimony on ways to increase the use of Reserve forces in the military services and to do it in the context of reality and the overall world today, in terms of reality, and of how much we can use our Reserves in today's modern world.

Today, large-scale combat operations by our military forces could not be conducted successfully without the Reserve component, and

most smaller-scale operations include some Reserve component participation. All of the recent contingencies involving U.S. military forces: Grenada, the airstrike against Libya, and Operation Just Cause in Panama, involved units of the Reserve components.

I believe that in the coming years we should revise our military strategy to provide even greater utilization of the Reserve components. But we must do it prudently and we must do it according to advice of those who know best.

In this period of increased warning time and fiscal austerity, I think we have to conduct a fundamental reexamination of the use of the Reserves in all the military services. This will be a difficult challenge for the military services but one which must be addressed.

I also believe there are some areas in which missions can be transferred to the Reserve components. At the same time, active duty personnel have to become more involved in the day-to-day activities of the Reserve components.

We must also be prepared to use the existing authority to call up Reserve units at the early stages of potential crisis if we are going to have a true total force policy. If we avoid calling up Reserves when the need is clear, then that means that the active duty forces will make the argument that they cannot rely on the Reserves and, therefore, that missions and equipment should not be shifted to Reserves. That is what we have tried to avoid for years, however not always successfully.

This morning we will hear from four panels of witnesses on ways to increase the use of Reserve forces in the Defense Department. Senator Warner and I asked each of our witnesses to address a series of questions.

First, what roles should Reserve forces play in our overall military posture in the next 10 years in light of the changes in the threats to our national security?

Second, are there missions currently performed by the active forces that could be transferred to the Reserves?

Third, what changes should be made in the current manning and structure of our Reserve forces to carry out any new missions?

Fourth, are any changes necessary in the current legislative authority for training and mobilization of the Reserve forces?

In our first panel, Dr. Robert Reischauer and his colleagues from the Congressional Budget Office will outline the budgetary implications of a series of alternatives for increased utilization of Reserve forces in the military services.

In the second panel, the committee will hear from the Honorable Will Hill Tankersley, the immediate past chairman of the Reserve Forces Policy Board.

The third panel will be representatives from two well-known military associations, Lt. Gen. Lavern Weber, the Executive Director of the National Guard Association, and Maj. Gen. Evan Hultman, the Executive Director of the Reserve Officers Association.

Our final panel this morning will be the Honorable Stephen Duncan, the Assistant Secretary of Defense for Reserve Affairs.

The committee also invited the current chairman of the Reserve Forces Policy Board, former Secretary of the Army Jack Marsh to testify this morning. Secretary Marsh wanted to be a full partici-

pant in this hearing. However, he has had a long-standing commitment, an important commitment, out of town in support of the USO. Therefore, he is going to have to cut his appearance short this morning.

But, Jack, we appreciate very much you being here. We are going to ask you to be our first witness. So, you can come on up and have a seat. I will recognize Secretary Marsh as soon as we have opening statements.

Senator Warner will be coming in a moment. Let me turn to Senator Glenn or Senator Shelby whether there are any opening statements, and then we will hear from our friend of many years, Jack Marsh.

Senator Glenn.

Senator GLENN. Thank you Mr. Chairman. I want to congratulate you for holding the hearing and appreciate everyone being here this morning.

The total force review that the Department of Defense is conducting is something I wish we had right now. It will address the appropriate roles and missions between the Regulars and Reserves. I sometimes think that we get our priorities in wrong order around here in that we talk about what can be reduced here, what can be reduced there, without considering the force structure above that, the threat and everything else.

We should be talking about the threat first, then what forces do we need to cope with that threat, then third, what is the mix between the guard and Reserve. We do it the other way around. So I hope that you can keep that priority in mind here as we get into this.

The other thing is combat capability. That is the bottom line. We get so carried away with structure and Pentagon and purple suits and joint staffs and all sorts of things that we lose the bottom line sometimes. What we are talking about here is combat capability.

I would like to enter my statement in the record, Mr. Chairman, but I would like to say that——

Chairman NUNN. Without objection it will be a part of the record.

Senator GLENN.——there is a tendency and it is an admirable tendency among the Guard and Reserves, whatever you are asked, can you do it, yes sir, salute smartly, and we can do that, can we, you bet we can, and give us that job. Sometimes that is good and sometimes that is bad. You have to temper it with a little bit of reality sometimes. I am all for the Guard and Reserve. As the Chairman said, we could not go to war today without the Guard and Reserves. We know that.

But do not let this gung-ho attitude overcome some facts. The facts are that some of the roles, and we have got to be realistic, some of the roles that have been assigned to Guard and Reserve in the past have been performed admirably. They outperformed the Regulars in some of the competitions, and that is a fact. In those areas we probably could assign more of those missions to the Reserve and the Guard.

But in some others it has been very poor. I keep harping on these things but have not done anything about it. We have talked about them here for a number of years. Finally, the total force

policy is supposed to help us on that. I wish we had it now so we could use it for consideration of this year's budget.

Chairman NUNN. Senator Glenn, let me say on that point, I hope that the Department of Defense is taking that study seriously. I know that you are taking it seriously, we are taking it seriously in the committee. I have said over and over again that we need high-level serious attention to that study. I know that Secretary Marsh feels the same way along with Mr. Duncan.

But if we do not get it, if it is just a product that comes through the bureaucracy and is not given strategy implications and threat implications and overall assessments in a very serious and high level way, it is going to be a real step backward for the whole deliberative process here.

Senator GLENN. I agree with that. I wish we had required that to be written out and studied. I wish we had required that about 3 years sooner. But we had no way of knowing that everything was to change in Eastern Europe and this was going to be forced on us quite this fast.

I had breakfast yesterday morning with Deputy Atwood over there, Don Atwood, and some other people that are involved in this manpower area also. They invited the Senate subcommittee and the House subcommittee. When we met with them I brought this up about how seriously they are taking this whole study. Secretary Atwood just assured me in the strongest, strongest terms that they are going at this very, very seriously and that they will get it to us as fast as they can.

Let me bring up a couple of things, though. We have talked for about 4 or 5 years around here now about combat medical: 80 percent assigned to the Reserves; 71 percent short of the doctors; 7,000 doctors short; and 66 percent short of nurses, that is 31,000 nurses short. We keep talking about it. Every year there is a new plan. Nothing happens. That is obviously not one area that is working well.

Combat support/combat service support: 70 percent assigned to the Reserves, but 45 percent of those units are not combat ready. We have talked about that year after year.

Now, either we have to change and put some of those functions back in the Regulars or make other arrangements, somehow, for how we are going to perform these functions because they are necessary functions. So the basic line is we either cannot fix it or we will not fix, but it has got to be fixed.

If that means taking some of those functions away from the Guard and Reserve—and I do not want to do that because the logic behind why these particular jobs were assigned to Guards and Reserves is quite legitimate and I support that. But it has to work or you are fooling yourself as to whether we have combat capability if we ever have to use it. That is the only reason for having any of these units. We may have to go to combat sometime.

So I just hope that we are keeping that in mind here and that you do not get in the frame of mind, yes, we have a chance here now to get more things in the Guard and Reserve. I want to put more things in the Guard and Reserve right along with you. But keep your bottom line: what you do well and what you do not do well. I will back you to the hilt and so will the Chairman and ev-

erybody else on things that you do well and that we can transfer out of the Regulars to the Guard and Reserve because we are in a different threat basis now than we were before.

But at the same time we do not want to see some of these deficiencies year after year after year perpetuated into the future. Let us change those if we have to. The bottom line for all of us, Regulars, Guard and Reserve, and us on this committee, the bottom line is combat capability. That is what we have to design for the future.

That is a little longer than I started out saying, but thank you.

Chairman NUNN. Thank you very much Senator Glenn. Well-made points.

Senator Shelby.

Senator SHELBY. Mr. Chairman, I will try to be brief. We have a distinguished crowd here this morning.

I am interested in what are the top priorities for the Guard and Reserve. Is it more equipment? If it is, what equipment? Is it the Black Hawk and Apache helicopters? Is it tanks, armored personnel carriers? Is it aircraft, such as the F-16—RF-16-C-130?

We all know that under the current CFE negotiations both the Warsaw Pact and NATO forces will have to scrap existing equipment above allowable ceilings. However, I believe and I hope we will be able to keep a great deal of our more-modern equipment and scrap some of the older items in the inventory. We take this into account.

What about this panel here today, do you believe that the Guard and the Reserve should be recipients of this equipment? I say this because it is becoming more and more difficult in today's budget atmosphere to look otherwise.

Training, as everyone here knows, is essential to our readiness—Senator Glenn just got into that—of our Guard and our Reserve units. Training is often a function of geography. Moreover, active military installations often serve as the prime location for summer and weekend training, as the former Secretary well knows. With this in mind, what extent will the National Guard and Reserve training be affected by the base closures around the country?

Do you know if the Guard and the Reserve officials had any input into the DOD request for dedicated equipment for the National Guard and Reserve? What really represents your priorities?

I look forward to hearing from the witnesses.

Thank you Mr. Chairman.

Chairman NUNN. Thank you Senator Shelby. Senator Exon, I have promised Secretary Marsh that he can leave, catch a plane, in about 10 minutes. So, if you could—I know you may have opening remarks, if we could defer them just for a few minutes. Is that all right?

Senator EXON. I will be glad to yield.

Chairman NUNN. Let Secretary Marsh go ahead and then we will come back to you.

Before you proceed, I will enter into the record the prepared statements of Senators Dixon and Thurmond.

[The prepared statements follow:]

Prepared Statement of Senator Alan J. Dixon

Mr. Chairman, I am delighted that the committee is going to hear testimony today on "alternatives for increasing the utilization of Reserve forces." I welcome our distinguished witnesses from the Defense Department, Congressional Budget Office, and the associations of the National Guard and Reserve Officers, as well as the former chairman of the Reserve Forces Policy Board.

In this period of dramatic change, we must reexamine many of our assumptions about defense policy. I commend the distinguished Chairman for his efforts to stimulate this process in a recent series of speeches. He has made a number of good proposals regarding U.S. defense strategy and the defense budget, and I think it is an excellent idea to flesh out these ideas in this hearing and others.

I believe that the Chairman's call for "greater utilization of the Reserves" is a particularly important proposal. Moreover, it is a challenge that the Department of Defense and the military services have not adequately addressed. For example, Mr. Duncan—in his prepared statement for today—includes the following quotation from the President's recently released National Security Strategy of the United States: "Reserve forces are generally less expensive to maintain than their Active counterparts so, as we adjust force structures, retaining Reserve units is one alternative for reducing costs while still hedging against uncertainties. It is an alternative we must thoroughly explore . . ."

This statement is on the right track—but it does not go far enough. We must not merely "retain" Reserve units, but bolster them and place more reliance upon them. As I said on the Senate floor last week, "I believe that as we draw down forward deployed forces, we should be transferring missions and capabilities to the Reserves and the Guard, so that we can cost effectively preserve sufficient strength in a time of diminishing threat." Importantly, this is not the time simply to "explore" this alternative—as the President's strategy suggests. Instead, it is the time to begin moving our Nation's Armed Forces in this direction.

Mr. Chairman, I look forward to hearing from today's witnesses.

Prepared Statement of Senator Strom Thurmond

Thank you Mr. Chairman

Mr. Chairman, I want to congratulate you for scheduling this hearing on the utilization of our Reserve forces in an era of reduced military force structure. Today's hearing should bring to focus the significant role the National Guard and Reserves have had, and I trust will continue to have, in maintaining "Peace through Strength."

General Piotrowski, commander-in-chief of the U.S. Space Command, said: "Although much has changed since our founding fathers penned the Constitution, one thing has not—that is our Nation's reliance on its citizen soldiers." I believe that we can narrow the General's words somewhat and use them in the context of today: "Much has changed over the past year, but our reliance on the National Guard and Reserves has not."

The current contribution to our Nation's defense by the Reserve forces is staggering. Over one-half of the Army's force structure is in the Reserve components—42 percent of the combat units, 58 percent of the combat support units, and 70 percent of the combat service support units. Although the numbers for the other services are somewhat less, the services rely heavily on Reserve forces for certain capabilities. Specific examples are: the Naval Reserves provide all the combat search and rescue squadrons, 93 percent of the cargo handling battalions, 85 percent of the ocean minesweepers, and 50 percent of the fleet hospitals. In the Air Force, the Reserves provide: 92 percent of the U.S.-based strategic interceptor force, 59 percent of the tactical airlift, 55 percent of the tactical air support, 92 percent of the aeromedical evacuation crews and 50 percent of the strategic airlift crews.

Mr. Chairman, as the Defense Department draws down its force structure based on a reduced threat and constrained budget, there may be reductions in our Reserve forces. These reductions should, however, not be based solely on budgetary considerations but on who best meets the mission requirements.

As the Active forces reduce, the Reserve forces can assume some of the active roles and missions. General Welch indicated in testimony before this committee that the Air Force may transfer several wings to the Air Force Reserve and Air National Guard. I expect that, as our heavy divisions are withdrawn from Europe, some can be reconstituted in the Reserve components. The end result of this conversion is that our Army Guard and Army Reserve will be primarily heavy forces and will, therefore, become the strategic reserve for a conventional war.

An immediate benefit to Reserve readiness as a result of the reduction in Active duty forces is that their equipment—aircraft, tanks, ships, and smaller items such as radios—will be passed down to our Reserve forces. This flowdown will enhance the combat effectiveness of our citizen soldiers and, more importantly, allow them to spend the time they currently use in maintaining their old equipment to hone the skills required to better perform their jobs as part of the "Total Force."

Mr. Chairman, I believe the future holds great promise for our citizen soldiers. They will be more fully integrated in the Total Force, have a greater say in determining their budget priorities, and will be a critical factor in our Nation's military posture as we face the challenges of the 21st century.

STATEMENT OF JOHN O. MARSH, CHAIRMAN, RESERVE FORCES POLICY BOARD

Mr. MARSH. Mr. Chairman, I deeply appreciate the opportunity to be here. I would also like to use this opportunity to thank this committee for the help and support that was never failing when I was the Secretary of the Army.

I would also thank you on behalf of the Department of Defense for your steadfast support and help for a long period of years, which I believe has contributed in a very significant way to the events that are happening in Western Europe. It has been the leadership and the support of the Congress of the United States, of this committee and of the committees of the House that I think has brought about this happy result.

You are quite right, I think this study is profound. I consider this study the most significant of any that relates to defense policy in all my Federal service. I can tell you that Secretary Cheney shares that view and people who work with him, like Mr. Duncan and Mr. Jehn, are of that view.

I am very cognizant of the role that Congress has under Article I, Section 8, of the Constitution to raise armies and navies and also to regulate militia. If I could introduce my full statement and summarize it, I would be grateful, Mr. Chairman.

Chairman NUNN. Without objection.

Mr. MARSH. I would emphasize that these reflect my views. I am speaking as an individual. I am not speaking in reference to any endorsement of my views on legislation by the Department of Defense.

I would like to emphasize that in my view in order to have an orderly drawdown of our Active forces, certain congressional authorizations are absolutely essential to achieve that goal. I have given you a summary of some pieces of legislation. Many of them are already before the committee, Defense has sent a number of them up; you are considering others. I simply want to emphasize how vital and essential that is to achieve an orderly drawdown.

I might add that a Member of Congress suggests facilitating lateral transfers from people in the military service; for example, an individual who has a background in criminal investigation or military police, being able to easily transfer into the civilian Drug Enforcement Agency, for example, in the Federal system.

Second, I believe that we should look at the Reserve components as something of a safety net in order to provide career opportunities for senior enlisted and officer persons. For example, a non-commissioned officer with 12 or 14 years of service who is involuntarily separated, might salvage that investment of Active duty time for

retirement by completing his service in the Guard or Reserve and thereby preserve a very helpful manpower resource. The retirement would not be quite as great and it would not vest as soon, but I think it would be something that I would invite the committee to consider.

I would add this, based on having attended nearly all of the hearings that we have had on the total force policy. I am a private citizen but I have tried to attend as many of those that I possibly could. I would say to you that the question of the role of the individual ready reservist came up. And I think this is an area that deserves special consideration by the Congress and by the Total Force Study.

Let me pose to you in a rhetorical way the kind of complex questions that are raised in the most recent considerations, and you will see how difficult it is. Example: You de-activate an Active unit, take it out and disestablish it in the Active force. It has currently assigned to it combat support and combat service support either in the Guard or in the Active Reserve or both.

Because you disestablished the Active unit, do you then disestablish the combat support and combat service support? Or do you redesignate the missions of the units in order to preserve the manpower?

I raise that issue because the representation in nearly 4,000 communities in America of Reserve centers and Guard armories is a very important consideration. I believe that you are seeking from us recommendations and guidelines in order to enable you to address those questions.

I would say that almost without exception in every meeting, the point that the Chairman made at the opening of his statement here, the question of will, is raised; that if we place these types of missions in the Reserve components, will the "political will" be there when the time comes to call these units to active duty?

Another area that we are addressing and have to give consideration to is the role of the Reserve components, particularly National Guard, in domestic emergencies. There is the special role the Guard has in drug enforcement, a role that is being expanded to some extent, into other Reserve elements.

I raised briefly a question for you as to the application of the conventional force reduction talks to the Reserves. What impact might that reduction have on the CFE agreements on Reserves, particularly as to Americans who are civilians who reside in Western Europe and have enjoyed a Reserve status or may be military retirees? I do not know the answer to that question, but I simply raise it.

Mr. Chairman, that is a broad overview of the points that I make in my statement here, which is before the committee. I deeply appreciate your courtesy in permitting me to testify first.

I also am very grateful for your continuing interest in what I consider to be one of the most significant defense issues that is before the American people and the Congress of the United States and the administration at this particular time.

Thank you, sir.

Statement of

THE HONORABLE JOHN O. MARSH, JR.

I appreciate the Committee's interest in hearing what I consider a highly-important subject at a critical time as we review our defense force structure.

This tasking of the Congress in reference to our Total Force Policy is one of enormous consequence. It is a Herculean assignment. In all of my federal service I do not know of any single tasking that has the scope and future implications for our defense forces compared to this one. It is also a tasking that Secretary Cheney takes most seriously.

I would like to make several observations for consideration by the Committee. These comments draw on my military service - active, reserve and National Guard, my service as a member of the Congress, my tenure as a staff member serving both a Vice President and a President as well as my tenure as Secretary of the Army for over eight years, and now in the capacity of Chairman of the Reserve Forces Policy Board, which began last November pursuant to my appointment by Secretary Cheney.

As Chairman of that board, I am a member of the Total Force Policy Study and have attended all or part of most of the numerous sessions that have occurred in the course of that study.

I have also participated in many preliminary discussions with individuals and groups charged with continuing this study.

It is not my purpose to review the circumstances that bring us to this study of our Force structure. They are the result of international events, geopolitical considerations and budgetary constraints. There are several key points I would like to make:

1. Article 1, Section 8 of the United States Constitution vests the Congress with authority to raise and maintain our active armed forces. Under the militia clause of the Constitution, the Congress has special responsibilities on regulating militia. The Executive branch can make recommendations; final decisions on Force structure must be made by the Congress.

2. In structuring our Force, consideration must be given to the role and responsibility of Reserve components and how they are integrated with and relate to the active force.

3. An orderly drawdown of active forces cannot be achieved without Congressional authorization of a number of statutes relating to personnel to assist in reaching this goal. I have appended a summary list of essential legislation that must be enacted, in my view and the views of others, for an orderly drawdown of the Force.

Some are contained in Defense requests, many others are already before your Committee.

4. In any drawdown, consideration should be given to enhancing opportunities for people being separated from the service to join the Reserve components. This will preserve a vital manpower pool, it will enrich the Reserves, and it will protect the investment of accrued active time toward retirement, albeit at a reduced rate compared to regular retirement and vesting.

5. As a premise at a recent Total Force Colloquium, the background material included the following observation:

> The current policy of the Department of Defense is to maintain as small an Active peacetime force as national security, military strategy, and overseas commitments will allow and to place maximum reliance on Reserve and Guard units and manpower.

I believe this also reflects the views of the Congress.

There are basic military manpower questions that Congress must address. For example, I believe that we need Congressional guidance on the size, management and capabilities expected of the Individual Ready Reserve (IRR).

Let me outline, rhetorically, a question that poses a dilemma for those considering Force structure. Let us assume that an active duty Combat unit is slated to be deactivated as a part of our drawdown policy. If this unit has Combat Support and

Combat Service Support in either the National Guard or active Reserve, will the Reserve component units also be deactivated? Or will they be re-re-designated to retain the military manpower, as well as to keep Reserve representation in some of the nearly 4,000 communities that today have a National Guard armory or Reserve center?

Demographics and propensity to enlist are factors in recruiting. There is a greater representation of National Guard armories in many of the older portions of our country. There is a population shift in military age group of 17-25 which poses recruiting problems in areas of declining population. The same forces that require reapportionment for representation in the House are reflected in the demographics of enlistment. What guidelines can the Congress give us on disestablishing units, or reducing them in size, or in closing National Guard armories or Reserve centers? Because of the right of the State to have militia forces and the Constitutional authority of the Congress to regulate them, what guidance might this Committee give us as to Congressional views on this issue? I am aware that the foregoing questions I raise are ones on which the Committee is seeking advice and recommendations; however, I pose them to emphasize the complexity and gravity of the issues the study group is considering and our awareness of the key role the

Congress must play ultimately play in their resolution.

In nearly every meeting of the Total Force Policy Board, and an issue which was addressed by nearly every speaker at the recent colloquium in Washington to consider Total Force Policy, was the question of "political will." This question is usually expressed that if critical Force elements essential to the national security are placed in the Reserve components, can we expect a future administration to call them up, and to have Congressional support for this decision?

The Reserve Forces Policy Board and the Total Force Study, in addressing the composition of the Forces and the possible disestablishment of Guard units, are cognizant of the key role such units play in domestic emergencies, and the expanding role they have in the counter-narcotics program. The latter mission gives the Guard special responsibilities, but there is also some expansion of mission to other Reserve components.

The current CFE talks address questions of Reserve mobilization in the central region because it is a factor that relates to warning time. Although the CFE agreement does not impact on mobilization of Reserves in the continental United States because it is restricted from the Atlantic to the Urals in Europe (ATTU), what impacts might the CFE agreement have on

United States civilians with Reserve status who reside and work in the central region, or are United States military retirees who are located in that area, inasmuch as the latter may be recalled in certain situations? Might the CFE agreements apply to swiftly-deploying United States Reserve units, i.e., Air Guard or Air Reserve?

I have touched in this statement on only a few of the many critical but perplexing issues that confront those considering our Total Force Policy.

Because you seek my views, I would also stress that the development of a Total Force Policy will require close cooperation and input not just from the Reserve Community and those concerned with overall defense manpower issues, but also the Joint Chiefs of Staff and other departments and agencies of our government having a role in national security affairs. The final decisions will be made by the Congress pursuant to your authority under Article 1, Section 8, of the Constitution.

LEGISLATIVE NEEDS:

It is my professional judgment--and I'm speaking as Jack Marsh here, not officially for the Administration--that if we're going to reduce the armed forces properly, Congress should enact the following legislation:

1. Continuation of health benefit coverage, for a transitional period, for military personnel involuntarily separated for other than misconduct, and for their dependents. (Such coverage presently is available by law to federal civilian employees so separated, and to a substantial proportion of private sector workers.)

2. Separation pay for enlisted personnel so separated. (Such a benefit presently is available to officers.)

3. Enhanced outplacement services.

4. Unemployment compensation eligibility.

5. G. I. Bill enhancement.

Chairman NUNN. Thank you very much, Mr. Secretary. I am going to just ask you one question and defer my colleagues because you have very limited time here.

Overall, considering where we are now, the change in the threat in Europe, the increased warning time we have, what is your view about shifting more functions to the Reserve now? Which functions would you be looking towards shifting if you believe that we can make those shifts? I am asking your personal view now.

Mr. MARSH. This is a personal view. I believe that your statement of warning time is absolutely critical because the first 30 days place greater emphasis on Active forces; 40 to 45 days you begin to get a mix. After 45 days or 60 days then you have a great deal more warning time, and I think this gives you many, many more options assuming we are going to recognize the time that we have by the signals that are a part of that decision-making process.

Chairman NUNN. We always have to assume that. We had to assume that before we had——

Mr. MARSH. Exactly. And you are quite right. I would say to you that——

Chairman NUNN. If you do not assume that, nothing we have had since World War II will work.

Mr. MARSH. One of the things that we should think in terms of is increase of full-time manning, particularly in the Army Reserve and the Army Guard. The full-time manning in the Air Guard and Air Reserve and some of the other Air components is considerably higher.

But in response to your question, there are special areas where, in field artillery, in communications, in mechanics, in helicopter

repair, there is an enormous capability in the Reserve components; I think those are areas that we should look at—in the combat support and combat service support.

In the combat arms, I believe that there is a greater capability there than people realize, but I believe the problem occurs at coordinated training exercises at the level of battalion and above. I believe that once we can focus greater attention in the Guard and Reserve on unit training at a higher level, at the battalion and brigade level, that you can use and rely on those combat forces.

There are many people available who are volunteers who are more than happy to come on Active duty and serve for a period of time. For example, in civil affairs, we have an enormous capability. We are using those people currently down in Just Cause.

And in reference to Senator Glenn's comment on the medical, I believe there are great strides that have been made in the medical arena. But the Senator is quite right, more needs to be done. I would say to you that a great deal of that is a question of resourcing. You take in today's Active Army, really the requirement for nurses is about 7,000. The authorized end strength is closer to 5,000; so you have got a built-in shortage there. What you need to do is to increase your end strength and you would have to increase your resourcing of it. I believe, in the medical community, we can get significant improvements if we get resourcing.

I am of the view that many of these missions, both combat support and combat service support can be transferred. But the point that Senator Glenn made of not confusing enthusiasm and a can-do attitude for capability is very important. We do need a realism in the Reserve components.

But it is important to note that about 45 percent of today's Army National Guard are veterans with more than 2 years of Active duty service and about 55 percent of today's Active Army Reserve are veterans of more than 2 years' service. So you have a very large veterans pool in both the Guard and the Reserve. That is true in all the other services, Air, Navy, Marine Corps and Coast Guard. It is a tremendous resource. So I think Senator, there is a very broad area of capabilities there.

Chairman NUNN. Thank you very much, Mr. Secretary. I know the time is running out here, and the Secretary needs to leave at 9:30. Any other questions at this point? I guess we have time for one more question and no more answers. [Laughter.]

Senator WARNER. The total force policy, Mr. Secretary, is a subject that you have followed very carefully with a number of secretaries of defense. Can you tell us your understanding of the current intensity and thoroughness with which the Department of Defense is now reworking that?

Mr. MARSH. I would say to you, Senator, that Secretary Cheney/Deputy Secretary Atwood and the leadership there are very cognizant of the seriousness of this. I think the congressional language of what you want is very clear—a broad, overall policy recommendation.

Chairman NUNN. The question is: Is that mission being carried out?

Mr. MARSH. Yes, I think it is. But the importance of the study, in my view, needs to continue to be emphasized. Secretary Cheney

has emphasized it and continues to do that. This hearing itself is an emphasis that is very important, in my view, in getting the attention of not just the administration but the American people on what is a very profound decision on major national policy.

Chairman NUNN. Senator Exon?

Senator EXON. Mr. Secretary I listen with great interest to your statements, and I agree with your overall philosophy. Let me ask you this question: Since it is assumed, and I think correctly so, that as we draw down the Active forces we are going to have more and more trained people available for the Guard and Reserve.

Let us look at the other side of the equation. Given the fact that it would appear that we are going to have trained manpower coming out of the Active forces and available to the Guard and Reserve, what are plans, what are the recommendations that you and your organization are making with regard to holding down normal recruitments in the Guard and Reserve that are coming in the other end of the pipeline?

, I guess I am saying, do we have to be tuned to the fact that we are going to have adequate personnel coming out of the Active forces without a whole lot of effort for normal recruitment policies that we carry out?

Mr. MARSH. Senator, I think there are two things we need to think about there. One, I think we need to look at how we treat the IRR as a manpower resource in order to better exploit it, better manage it and to draw on its capabilities and to sharpen those capabilities and keep the capability in the IRR because people have an IRR obligation.

Second, I believe you are going to have to continue to do a significant amount of recruiting for the Reserve components in order to bring in at the lower enlisted levels—the privates, the PFCs. The people who will be coming out of the service, I think, are going to be people between 4 and 18 years of service; they are going to have higher ranks. You are going to need a continuing influx, in my view, of people who are the foot soldiers for those units.

It is very important to preserve this capability of trained leadership that we have, many with extraordinary skills, some in languages, computerization, mechanics—but they are going to have to have the foot soldiers in those units. So we are going to have to have, I believe, a continuing recruiting program for the lower enlisted ranks.

Senator EXON. Which adds up to a significant increase in the total end strength; is that right?

Mr. MARSH. Not necessarily, sir. I think one of the areas that we need to address is the question of attrition. Attrition is a problem in some of the Reserve components. I think it should be a goal to try and reduce the amount of attrition in the Reserve components. I think that is something we need to address.

Senator EXON. Thank you, Mr. Secretary.

Chairman NUNN. Thank you, Mr. Secretary.

Senator Glenn?

Senator GLENN. This is a short one. I know you have to go. Have you looked at this on a time-line basis as what could be in the Guard and Reserve? Here is what I am thinking of, the Chairman has very properly and correctly made the warning time that we

may have a basis for a lot of things. I agree with him on that. What we can assign the Guard and Reserve is going to be on a basis also. If you have a warning time of seven days, 15 days, 30 days, 6 months—you have a whole different picture of what you can put into the Guard and Reserve and a whole different picture from service to service. Because if you have ships in the Reserves, say, and they have certain weapons systems on board those ships mothballed, that is a different capability, even though the ship can run. But it cannot do much unless you bring the weapons systems up to date. Aircraft that are mothballed—you cannot assign missions to the Reserve and have airplanes mothballed, and so on. I think his emphasis on the warning time basis is very well taken—I was talking, Sam, about your comments about the warning time.

Have you done much thinking about that? I know that may be a little much to answer this morning, but I would appreciate if you could put your thoughts on paper maybe and supply them to us for the record.

Mr. MARSH. Senator, I think you have raised a very interesting question because, as you point out, the warning time and its impacts will vary depending on the nature of the unit. I am of the view that those units that are designated, that are part of a package to be called up, those people have to be volunteers with a clear understanding that they will be called; and that when they volunteer and serve in that unit, they know they have a special requirement that relates to their employers, to their families, and may involve other demands that are made on them for training.

But the point that you raise, I think, is one that I would suggest to Mr. Duncan. I am sure he would be responsive, that we give some special attention, in the study, to the special dimensions that you talked about.

Senator GLENN. I would appreciate any comments you make. I was thinking more of the equipment itself rather than the people. People can be pretty well trained and ready to go, but the equipment—the mission assigned to the Reserve is completely different from one type equipment to another. You have to take that into account.

Mr. MARSH. That is exactly right. I think this is an area that we should address. I will request that it be put in. I am sure Mr. Duncan will do so because it still remains that lift is a major requirement, both air and sea lift.

Senator GLENN. Thank you. Mr. Chairman, I am going to let him catch his plane, but I do have some questions for the record that I hope Secretary Marsh will answer.

Mr. MARSH. I will be happy to, Senator.

Chairman NUNN. Mr. Secretary, thank you for being here. We appreciate your time. Good luck in making your plane; I know it will be a good speech.

Mr. MARSH. Thank you very much, Senator. I appreciate it.

Senator GLENN. Mr. Chairman, could I just say one word? I have to get over to work on the floor in a little while here, so I am going to have to leave. But that does not indicate a lack of interest in what you are talking about this morning, obviously, I think you are into one of the more vital areas in our whole restructuring of

things right here this morning. We do not have a full house here this morning, but we sure have to get into these things. Thank you.

Chairman NUNN. Senator Glenn, since you will be managing the bill, do you have any idea about votes? Will we be voting——

Senator GLENN. No, I do not. We could not get copies of proposed amendments last night. That has been the battle all the way through this whole thing.

Chairman NUNN. When are going to finish the bill; can you tell us? [Laughter.]

Senator GLENN. By no later than 4 o'clock.

Chairman NUNN. Oh, you got an agreement?

Senator GLENN. The final passage is by no later than 4 o'clock this afternoon.

Chairman NUNN. Good work, good work.

Our next panel, I would like to get Dr. Robert Reischauer and, whoever you would like to bring with you. We appreciate all the hard work CBO has done on this vital subject. I have had a chance to go over all of your material, which is extensive. I think you have done a real service to all of us by giving us options and pointing out the pluses and minuses of those options, not making it appear as if it is all a simple proposition, which it is not. We appreciate very much you being here this morning.

STATEMENT OF ROBERT D. REISCHAUER, DIRECTOR, CONGRESSIONAL BUDGET OFFICE; ACCOMPANIED BY ROBERT F. HALE, ASSISTANT DIRECTOR, NATIONAL SECURITY DIVISION, CONGRESSIONAL BUDGET OFFICE AND V. LANE PIERROT, PRINCIPAL ANALYST, NATIONAL SECURITY DIVISION, CONGRESSIONAL BUDGET OFFICE

Dr. REISCHAUER Thank you, Mr. Chairman and members of the committee. We appreciate the opportunity to appear before you today. Let me introduce my colleagues—Bob Hale on my right who is the assistant Director of the National Security Division at CBO, and Lane Pierrot on my left who is a Principal Analyst who has been working on Reserve force issues at CBO.

Chairman NUNN. Mr. Hale, Ms. Pierrot we are delighted to have both of you.

Dr. REISCHAUER I will submit my prepared statement for the record and summarize CBO's analysis of approaches that would increase reliance on Reserve forces. The context for this analysis consists of the dramatic relaxation that has taken place in East/West tensions and the unrelenting pressure of the budget deficit which, taken together, suggest that there may be substantial reductions in active-duty forces. If so, Reserves may make an even greater contribution to our defense than they do already.

There are two broad approaches that could be used to increase reliance on the Reserves.

INCREASE USE OF SELECTED RESERVES

The first of these is to place more emphasis on the Selected Reserves, letting them operate pretty much as they do today. This could be accomplished in a number of ways. One is merely to avoid cutting back the Reserves, which by default would place a heavier

reliance on them if active-duty forces are in fact reduced. A second way to achieve a greater reliance on the Selected Reserves would be to improve the capability of certain existing units. For example, aircraft could be added to existing Reserve wings to bring the number of planes per wing closer to the levels existing in the active-duty forces. A third way would be to increase the numbers of certain types of units. For example, the Air Force could add several tactical fighter wings to its Reserve forces as it eliminated wings from active duty.

NEW APPROACHES TO INCREASING USE OF RESERVES

The second broad approach to increasing the military's reliance on the Reserve forces would be to develop new concepts that involve personnel in the Individual Ready Reserve, of which there are about 524,000. These new approaches may be appropriate if we decide we can forego some of the capability for relatively rapid mobilization that is offered by the Selected Reserve. One such new concept is that of nested ships, which would involve stationing four or five ships of similar type together. Except for one mother ship, all of the vessels would be in stored status. In peacetime the mother ship would be manned by Reserve personnel on active duty and a complement of part-time reservists. During mobilization the mother ship's personnel would be divided among the stored ships, and nondrilling Reserves would be used to round out the crew.

An analogous concept for the Air Force would involve storing aircraft in flyable but nonoperating status. The stored aircraft would be provided with maintenance similar to that now provided for aircraft that are kept in contingency status. Selected Reserve squadrons that operate the same types of aircraft would be augmented to provide the experienced personnel to man these stored aircraft.

Most of the remaining personnel needed to bring the new squadron to full wartime manning would be drawn from nondrilling Reserve personnel who have been off active duty for less than 2 years. Some pilot positions that would require up-to-date skills would be filled by active duty pilots who were serving in nonflying billets.

A similar application for the Army would involve cadre divisions. These divisions would be made up of an active-duty cadre of about 3,000 senior personnel. In the event of war, the cadre division would be filled out with nondrilling Reserves who have been off active duty for fewer than 18 months.

Nested ships, stored aircraft, and cadre divisions represent relatively inexpensive ways to provide the flexibility to rebuild forces for a major war for which there was a substantial period of warning. However, these units could not meet peacetime needs and would require a substantial period of time to become fully ready for combat.

COSTS AND EFFECTS OF USING RESERVES TO RETAIN FLEXIBILITY TO REBUILD MILITARY FORCES

Let me now say a few words about the cost and effects of increasing our reliance on Reserve forces using two examples that are among the many options that you could consider. I will compare

these two alternatives with a base case that assumes a 50-percent reduction in the active duty ground forces and the tactical air forces that are designed primarily to defend Europe.

BASE CASE

As you can see from the chart (table 1) on my right, the base case would involve eliminating 7 Active divisions and 10 tactical fighter wings. For balance, the base case also cuts 89 Navy vessels and 2 Marine Corps brigades.

TABLE 1. CHANGES IN THE NUMBER OF FORCES

	1990 Level	Base Case Level	Additions to the Base Case Under Alternatives I	Additions to the Base Case Under Alternatives II
Army Divisions				
Active	18	11	0	0
Reserve or cadre	10	10	2	5
Air Force Tactical Wings				
Active	24	14	0	0
Reserve or stored	12	12	5	7
Navy Ships				
Active	518	429	0	0
Reserve or stored	33	33	35	14/54
Marine Corps Brigades				
Active	9	7	0	0
Reserve or cadre	3	3	1	1

These far-reaching changes would take a number of years to carry out. Furthermore, they would probably require substantial involuntary separations of career personnel, as the active-duty forces would be cut by about 460,000 individuals. Once these changes are fully carried out, the capability of the Army ground forces would fall by about 24 percent and the tactical air capability would be reduced by about 30 percent. This effect can be seen in the first chart (table 2) on my left.

TABLE 2. EFFECTS OF ALTERNATIVES ON U.S. MILITARY CAPABILITY ASSUMING FULL MOBILIZATION RELATIVE TO 1990 AND THE BASE CASE (In percents)

	Reductions Below 1990 Level Under Base Case	Additions to the Base Case Under Alternatives I	II
Army Ground Forces	-24	9	22
Air Force (Tactical)	-30	23	32
Navy Ships	-16	8	15

The second chart on my left (table 3) shows that compared with 1990 levels, the annual military budget would be reduced by about $43 billion under this base case. Since there would be no reduction in the number of Reserves in the base case, the Reserve share of the total force would rise from 36 percent, where it is today, to about 42 percent.

TABLE 3. LONG-RUN BUDGETARY EFFECTS (In billions of 1990 dollars)

Service	1990 Level	Base Case Level	Additions to the Base Case Under Alternatives I	II
Army	77.6	58.0	2.6	3.2
Air Force	92.9	83.1	4.2	2.1
Navy	87.6	76.6	3.3	2.6
Marine Corps	12.0	9.5	0.4	0.3
All Services	270.1	227.2	10.6	8.3

Chairman NUNN. Would you make sure you tell us—you talk about $43 billion—over what period of time and from what base line are you judging that so we can get the——

Dr. REISCHAUER Okay. This is compared with 1990 levels in constant dollars, and it would be after the changes are fully phased in. Obviously, there is some uncertainty about how long it would take changes like these to occur; but we are talking about a substantial number of years. We are not talking about 1 or 2 years. These are 5-, 7-year kinds of changes.

Chairman NUNN. $43 billion over 5 to 7 years.

Dr. REISCHAUER No. $47 billion in the final year.

Chairman NUNN. In the final year. So that would be a steady-state savings of $47 billion, once it was fully implemented.

Dr. REISCHAUER Once it was fully implemented. That might require 3 or 4 years or more.

Chairman NUNN. What about in the first year of savings? Would there be any savings in the first year?

Ms. PIERROT. Perhaps $2 billion to $4 billion in the first year. We have not estimated the phase savings for these alternatives in great detail. But the savings in the near term would be considerably lower.

Chairman NUNN. Well, this is what I hope we can slowly get across in this town. I think it is crucial; is that you can do a lot of things over 3, 4, 5, 6, 7 years. But you do not save much the first year. People get these numbers all in their mind, and that is what we are facing around here. People are thinking you can do these things and save huge amounts of money the first year.

So, I think it is very important on each one of your examples if you could, maybe for the record, emphasize what you are talking about in terms of time span.

Would it be fair to say you are talking about $47 billion in savings over 5 to 7 years from the present CBO baseline? Or is that not what you are using?

Ms. PIERROT. I think that it would be $43 billion——

Mr. HALE. $43 billion.

Ms. PIERROT. ——to begin with. It is effectively from the CBO baseline, but it is a steady-state case. So it is eventual annual operating savings rather than current savings.

Chairman NUNN. Could you give us some way of saying what it would be over the 5 years? We are trying to calibrate in 5-year terms. Do you have a way of breaking that out?

Dr. REISCHAUER Certainly we can do that for the record. I would just add, Mr. Chairman, that the CBO baseline is an inflated number over time. The $43 billion that we are referring to is in constant 1990 dollars. So, in the 5th or 7th year, whenever this change was fully phased in, the savings relative to the baseline at that time will be slightly larger than the $43 billion.

Chairman NUNN. Thank you. What I would ask you to do for the record is furnish us—assuming we bought off on each one of these concepts, assuming we decided we are going to go with case 1 or case 2 or case 3, give us the 1991 BA and outlay savings from the CBO baseline. Also the same thing for 5 years.

Mr. HALE. Senator, we will be glad to do that. We will need to make some assumptions, perhaps working with your staff, about how rapidly you choose to do that. It is a policy decision, clearly. It will tie to the number of involuntary separations you want, if any,——

Chairman NUNN. Why do not you go out on a limb and assume we did it prudently? [Laughter.]

Mr. HALE. I will be glad to do that, Senator, if you will help me or your staff will help me define prudent.

[The material referred to follow:]

ILLUSTRATIVE PHASED SAVINGS IN BUDGET AUTHORITY AND OUTLAYS FOR BASE CASE AND ALTERNATIVES
(In billions of current dollars)

Time to Complete	1991	1992	1993	1994	1995	1991-1995
Budget Authority						
Five Years						
Base case	4.5	14.0	24.3	35.4	47.3	125.5
Alternative I	3.4	10.6	18.3	26.6	35.6	94.5
Alternative II	3.6	11.3	19.6	28.5	38.1	101.1
Seven Years						
Base case	3.2	10.0	17.4	25.3	33.8	89.7
Alternative I	2.4	7.5	13.1	19.0	25.4	67.4
Alternative II	2.6	8.1	14.0	20.4	27.2	72.3
Outlays						
Five Years						
Base case	2.8	9.5	18.0	27.9	38.8	97.0
Alternative I	2.1	7.2	13.6	21.0	29.2	73.1
Alternative II	2.3	7.7	14.5	22.5	31.3	78.2
Seven Years						
Base case	2.0	6.8	12.9	19.9	27.7	69.3
Alternative I	1.5	5.1	9.7	15.0	20.8	52.1
Alternative II	1.6	5.5	10.4	16.1	22.3	55.9

SOURCE: Congressional Budget Office estimates based on Department of Defense data.

NOTES: Rounded to the nearest $100 million. Numbers may not add to totals because of rounding.

All savings assume that changes are phased in evenly over the period specified.

Savings estimated using CBO inflation and outlay rate assumptions. A composite inflation index for accounts affected was constructed.

The table shown above provides illustrative phased costs for the savings associated with the base case and Alternatives I and II. Because the period over which alternatives are to be phased in is a policy decision, CBO has picked two periods discussed during the hearing that illustrate possible approaches. One assumes changes are phased in over five years, the other assumes a seven-year phase-in period.

The results show that savings in 1991 would range from about $2 billion to about $5 billion for the base case and about $2 billion to $4 billion for the alternatives--both considerably less than the long-run steady-state estimates provided in the CBO testimony. The ranges in these estimates depend upon whether savings are expressed in outlays or budget authority, and whether the changes take place over five- or seven-year periods, though either longer or shorter periods could also be envisioned. All savings assume that the changes associated would occur evenly over the period selected.

Savings in the near term could be even lower--especially for the alternatives--since the estimates include no fixed costs. Only the Army was able to provide CBO with estimates of the added fixed costs for placing forces in the reserves. (The other services argued that it was impossible to estimate these additional costs without more detailed information about the locations of new reserve units than CBO could provide.) Army estimates might serve as a guide to the reduction in savings, as well as the uncertainty about how much savings might be reduced. The Army initially estimated that the one-time costs of building and leasing facilities for a new division in the reserve component would total about $400 million. A later Army estimate was about $1.0 billion, assuming that no existing facilities could be used. These costs would typically be spent in the early years of a transfer since you have to build the facility before you can create the unit.

Other costs, such as transporting troops and equipment to new locations, could further reduce near-term savings. In addition, CBO has assumed that active-duty manpower would be sharply reduced, resulting in large involuntary separations. If a decision is made to retain some or all of these people, savings could be dramatically reduced.

Dr. REISCHAUER. Going back to the base case, let me note that it provides no capability to rebuild quickly if there were a sudden change in the threat. Moreover, much of the talent that has been assembled and trained by the military over the last decade would be lost.

ALTERNATIVE I: RETAIN FLEXIBILITY TO REBUILD WITH SELECTED RESERVES

One way of retaining some flexibility to respond, and of augmenting our capability, would be to transfer some of the active units that are eliminated in the base case to the Selected Reserve.

The first alternative shown on the charts partially offsets the base case's active-duty cuts by adding to the Selected Reserves 2 Army divisions, 5 Air Force tactical fighter wings, 35 Navy ships and 1 Marine Corps brigade. This alternative would eventually provide about 9 percent more Army ground capability, 23 percent more tactical air capability, and about 8 percent more Navy ships than would be available under the base case.

The increased flexibility to rebuild forces quickly that is inherent in this first alternative would eventually increase costs by about $10.6 billion above the base case. What this means is that the net reduction in DOD's annual budget, from the combination of the base case plus Alternative I would be about $32 billion below the 1990 level. Selected Reserves would increase by about 125,000, or 11 percent, and there would also be an increase of about 38,000 active-duty personnel above the base case level, because new Reserve units would be manned in part by full-time personnel.

Adding Selective Reserve units might create recruiting challenges, and this would particularly be a problem for the Navy. In recognition of this limitation, we added about $600 million in our cost estimate of this alternative for additional Reserve recruiting incentives.

ALTERNATIVE II: RETAIN FLEXIBILITY TO BUILD NEW RESERVE APPROACHES

The second alternative illustrated in the three charts that are before you emphasizes the new Reserve concepts that I discussed earlier. In this option, the Navy would add 54 nested ships. The Air Force would add 7 wings of stored aircraft, and the Army would add 5 cadre divisions. After mobilization of all the Reserves, this alternative would provide 22 percent more Army ground capability, 32 percent more Air Force tactical air capability, and about 15 percent more Navy ships than would be available under the base case.

Compared with the base case, the annual DOD budget would be about $8.3 billion larger under this alternative, leading to a net annual savings under the base case plus Alternative II of $34.6 billion.

Chairman NUNN. Again, those numbers are when fully implemented?

Dr. REISCHAUER Right, when fully implemented, and we will provide for the record some time path for you and an indication relative to our baseline.

About 20,000 additional selective Reserve personnel would be added in the Navy and the Air Force under this alternative, as well as an additional 163,000 nondrilling Reserves. The units created under this alternative would not only provide flexibility to rebuild but also would require little in the way of one-time costs, because few new units would be created. Also, recruiting problems should be minor, since most of the Reserves added under this alternative would not drill during peacetime.

This alternative would also permit the United States to retain some access to the many of the highly capable, well-trained personnel who are now on active duty but who would be leaving the military under the cutbacks proposed by the base case.

But it should be pointed out that this alternative also poses a number of important problems. The active-duty military would have to revamp its personnel policy significantly in order to build up a pool of nondrilling Reserves with recent active-duty experience. In addition, the military services have expressed many reservations about these new concepts in their informal conversations with CBO.

Because there is so little in the way of real historical experience to use to evaluate the services' concerns, any steps along these lines to develop these new concepts should be taken quite cautiously, and only after a thorough assessment and probably some extensive testing.

Let me conclude by restating that political changes in the world suggest that the United States can place more reliance on Reserve forces. The alternatives that I have laid out today are intended to stimulate thinking about the variety of approaches that are available for doing this, and what they might mean for the costs and capabilities of our forces.

Let me conclude and we will be happy to answer any questions that you might have.

[The prepared statement of Dr. Reischauer follows:]

Statement of
Robert D. Reischauer
Director
Congressional Budget Office

Mr. Chairman, I appreciate the opportunity to testify today about approaches that increase reliance on reserve forces in the U.S. military.[1] The United States already relies heavily on its reserve forces. For every two people on active duty today, another person is training part time in the reserves. In the Army, the ratio is roughly one to one.

But changes in threats to U.S. security, coupled with downward pressure on the defense budget, suggest that the reserves may take on even greater importance. Reduced security threats are likely to lead to substantial reductions in active-duty forces, which may lead the United States to rely more heavily on reserves in order to retain flexibility to rebuild forces quickly.

At the same time, reserve forces are not without their critics. Large reserve forces may be less useful now that a major war in Europe has become much less likely. Also, the reserves compete with active-duty forces for scarce budgetary resources.

These contending views ensure that increased reliance on reserves will be hotly debated. CBO's role is not to anticipate the outcome of that debate and specify the numbers of reserves and their missions in future U.S. military forces. Nor is it our role to specify a particular military strategy and derive from it the forces--active and reserve--that are appropriate to carry it out.

1. This testimony is based in part on ongoing analyses being performed at the request of the Senate Budget Committee.

Instead, our role is to stimulate thinking about a variety of approaches that involves reserves. To that end, after presenting some background information about U.S. forces, I will outline a number of approaches that would increase reliance on the reserves--approaches that could fit within many different military strategies. In the second part of my testimony, these approaches will be combined into two options that will illustrate the costs and effects of using reserves to retain the flexibility to rebuild U.S. forces quickly in the event security threats change.

BACKGROUND

Today, about 2.1 million people are on active duty in the U.S. military. These people train full-time during peacetime. Roughly one-third are deployed on ships or in foreign countries in order to deter conflict and to be near potential trouble spots. Most of the rest are available on relatively short notice to help protect U.S. interests.

Another 1.2 million people serve in the military selected or drilling reserves. They are organized into six components--separate National Guard and Reserve components in the Army and Air Force, and Reserve components in the Navy and Marine Corps. Many of the personnel in the selected reserves have already served on active duty for a period. But most selected reserves do not work full time in the military. Instead, they are paid

to train part time--usually during drill periods that take place at least 36 days a year. In the event of conflict, 200,000 of these selected reserves can be called to active duty for a limited period on the order of the President. All of them would be available in the event of a declared war.

Another type of reserves that is relevant for this debate is the individual ready reserve (IRR). Almost all of the 524,000 people who serve in the IRR have completed periods of active-duty service and, in some cases, have also served in the selected reserves. IRR personnel usually are not paid and do not train in peacetime. These nondrilling reserves could, however, be called to active duty in the event of a major war.

APPROACHES THAT WOULD INCREASE RELIANCE ON THE RESERVES

The U.S. military could increase its reliance on reserves either through more use of selected reserves, operating as they do today, or through new approaches such as "nested" ships in the Navy, stored aircraft in the Air Force, or cadre units in the Army.

Increased Use of Selected Reserves

Placing greater reliance on selected reserves would offer several advantages. Compared with active-duty forces, selected reserve units cost less to operate. The Congressional Budget Office (CBO) estimates that typical selected reserve units cost only 20 percent to 80 percent as much to operate as similar units in the active forces, depending on the type of unit (see Table A-1 in the Appendix to this testimony). Ground combat reserve units in the Army and Marine Corps are relatively cheaper; ship and aircraft reserve units are relatively more costly.

Reserve units cost less to operate because they train less, which for most types of units means that, compared with active-duty units, a longer period of training would be required in the event of mobilization. But this reduced readiness may well be consistent with recent changes in the threats to U.S. security. Those changes suggest that substantial warning would precede a future war. If so, then forces that would be needed primarily in a major land war--including some ground combat units and tactical air units--could reasonably be transferred to the reserves. Changes in threats may also permit reductions in the pace of peacetime naval deployments, a shift that would facilitate increased reliance on reserve ships.

Increasing reliance on the reserves would require improving what the Chairman of this Committee has termed the accessibility of the selected

reserves. The selected reserves have been called to active duty sparingly in recent years and were not used extensively in the Vietnam War. If the military services are to rely more heavily on selected reserves, they will have to have confidence that reserve units will be available when they are needed. That may require more reserve call-ups during minor contingencies, perhaps on a voluntary basis such as occurred recently during "Operation Just Cause" in Panama. Also, as the Chairman has noted, accessibility requires the will to use the reserves when appropriate--as was the case with the reserve minesweepers in the Persian Gulf.

Improving Existing Units. How might the military increase its reliance on the selected reserves? The services could increase the capability of selected reserve units that already exist. For example, the military could add aircraft to the reserves and use them to increase the number of planes in existing reserve squadrons--an approach the Pentagon terms "robusting." Today, wings and squadrons in the air reserves often contain fewer aircraft than their counterparts on active duty. Among the so-called general-purpose squadrons in the Air Force, about half of all reserve squadrons contain 18 aircraft compared with the 24 aircraft typically found in active squadrons. Often even fewer aircraft are in reserve tanker squadrons that provide aerial refueling and in airlift squadrons that transport military cargo.

Adding aircraft to these squadrons would be efficient because it would increase combat power without incurring the overhead associated with

creating a new unit. Last year, CBO analyzed the effects of eliminating about 300 aircraft from active duty and using them to increase the number of aircraft in reserve squadrons. We concluded that this approach would retain much of the military capability now offered by the active-duty aircraft while eventually reducing operating costs by about $300 million a year.

Other opportunities may also exist to improve the capability of reserve units. Today, some reserve units train with active-duty units. Indeed, some reserves--such as those in the Army's "roundout" units--are closely allied with their active-duty counterparts and are expected to be deployed with them in the event of a major war. This close partnership seems likely to enhance reserve capability and could be expanded to other Army reserve units as well as to reserve units in other services.

Avoiding Reserve Cuts. Not cutting selected reserves would be another way to increase reliance on these forces. Secretary of Defense Cheney has said that over the next several years the Army will eliminate several divisions and the Air Force several tactical fighter wings. Cuts in the forces of the other military services may take place as well. If most or all of these reductions come out of active-duty units, and few or none out of the selected reserves, then reliance on the reserves would increase.

However, the Army may not be planning such an approach to personnel cutbacks. In documents submitted along with the 1991 President's budget,

the Army indicated that it would reduce the numbers of active and selected reserve forces by equal numbers. It is not yet clear how the other military services are treating reserves in this period of planned cuts. Moreover, the Secretary of Defense has yet to review or approve any of the service plans.

Adding Units. Even greater reliance on reserves could be achieved if particular types of reserve units were increased in numbers while active forces are being cut. The Air Force, for example, could add several tactical fighter wings to its reserve forces at the same time that it is eliminating wings from active duty.

New Approaches to Increasing Use of Reserves

Placing greater reliance on selected reserves would offer important advantages. Yet, during this period when the United States is reappraising all aspects of its military plans, one could also consider new approaches to increasing reliance on the reserves. These new approaches could avoid some of the limits associated with selected reserves, such as the problem of recruiting enough personnel who are willing to attend weekend drills. New approaches may also be appropriate if the United States decides that, in some cases, it does not need the capability for relatively rapid mobilization offered by the selected reserves.

Nested Ships. One new concept is "nested" ships in the Navy, an approach the Chairman suggested in his recent speech dealing with carrying out a new military strategy. This concept could, for example, involve stationing four or five ships of a similar type together, including one mother ship. Except for the mother ship, all the vessels would be in a stored status. They might go to sea for training but would not be deployed overseas in peacetime. Older ships of various types might be candidates for this nested concept, including amphibious vessels, frigates, cruisers, destroyers, and ships that conduct underway replenishment.

As with ships now in the selected reserves, the peacetime manning of the mother ship would consist of reserve personnel on active duty--who would man about 65 percent of the billets--and a complement of part-time reservists. The mother ship would also be assigned extra personnel for each of the other ships in stored status, bringing the total active manning of the mother ship up to about 100 percent of the level found on ships now on active duty. In peacetime, the active and reserve crew of the mother ship would train for war and would maintain the stored ships.

During mobilization for war, the ships would be removed from storage. The personnel on the mother ship would split up and form the core crew for the stored ships. Manning would be increased to wartime levels using non-drilling reserves (that is, those in the individual ready reserve). In cases where jobs on the nested ships require recent active-duty experience, the

jobs could be filled by active-duty personnel who, at the time of mobilization, were filling jobs ashore. Nondrilling reserves would be used to fill the shore positions vacated by those manning the stored ships.

Nested ships could not, of course, be used to carry out peacetime deployments. Moreover, a substantial period of time might be required to convert these ships from stored status to assets that could be used in combat. But nested ships could certainly be activated in much less time than would be required to build and man a new ship.

Stored Aircraft. In the Air Force, an approach analogous to nested ships might involve storing aircraft in flyable but nonoperating status. Planes could be stored at Davis Monthan Air Force Base in Arizona, a desert repository where the Air Force already keeps planes for itself and the Navy. Alternatively, the aircraft could be maintained in nonoperating status at reserve sites. The stored aircraft would be provided with maintenance similar to that now provided by the Air Force for aircraft it maintains in "contingency status." Aircraft in contingency status receive checks every 90 days and are overhauled annually to bring them up to operational condition. The Air Force currently maintains some older Navy attack aircraft in this contingency status.

Experienced personnel to man these stored aircraft would be maintained in peacetime at selected reserve squadrons that operate the same

types of aircraft. In peacetime, manning levels in the selected reserve squadrons would be increased by about 25 percent, with the extra positions assigned to jobs that require long periods of training. During mobilization for war, aircraft would be removed from storage, and the core crew for the stored aircraft would be drawn from the selected reserve squadrons. Most of the remaining personnel needed to bring the new squadron to full wartime manning would be drawn from nondrilling reserve personnel who have been off active duty for less than two years. Some pilot positions, however, would require up-to-date skills that are maintained only by active-duty personnel. These positions would be filled by active-duty pilots who, at the time of mobilization, are serving in nonflying billets. Nondrilling reserves would be used to fill nonflying jobs vacated by the pilots.

This concept for stored aircraft would most probably be used for older planes, perhaps including attack, airlift, or bomber aircraft. Because of the plan for wartime manning, it would be important to store only those aircraft that were being operated by the selected reserves.

As with nested ships in the Navy, stored aircraft could not meet peacetime needs and would require a substantial period to become fully ready for combat. But they would provide a capability to rebuild forces in much less time than would be required to build and man a new aircraft.

Cadre Units. The Army could consider using a cadre concept similar to one now being tried by the Federal Republic of Germany. For each Army division, the concept would retain on active duty a cadre of about 3,000 senior noncommissioned officers (pay grades E-6 and above) and officers (pay grades O-2 and above). In peacetime, these personnel would remain ready to fight a war in Europe by maintaining up-to-date war plans, performing limited training, and maintaining equipment. In the event of war, the cadre divisions would be filled out with nondrilling reserves who had been off active duty for fewer than 18 months. Cadre units would exhibit advantages and limitations similar to those for nested ships and stored aircraft.

CBO has made specific suggestions of new approaches to relying on reserves in order to foster debate and to permit us to analyze costs, a topic I will discuss next. The military services would, of course, have to formulate the detailed plans before creating these or other new types of reserve units.

COST AND EFFECTS OF USING RESERVES TO RETAIN FLEXIBILITY TO REBUILD MILITARY FORCES

It is one thing to suggest ways to increase reliance on reserves; it is another to assess the feasibility of these options and the effects they might have on costs and on the capability of the United States to rebuild its military forces

quickly in the event security threats change. To help provide these assessments, CBO analyzed two illustrative alternatives--one that retains flexibility to rebuild by adding selected reserves and a second that does so using new approaches to reserve forces. CBO compared these alternatives with a base case that assumes substantial reductions in active-duty forces.

Base Case

In all probability, the United States will reduce the size of its active-duty military. But the amount of the reduction is still being debated. Recommendations from the Department of Defense (DoD) may well not be available until early next year, and those recommendations could be modified by the Congress.

However, to provide a specific context for assessing the effects of greater reliance on reserves, CBO had to assume a specific reduction. For the sake of illustration, this testimony assumes that active-duty ground forces in the Army and tactical air forces in the Air Force that are designed primarily to defend Europe are reduced by about 50 percent--roughly the reduction in total capability required of the Warsaw Pact under the proposed conventional forces in Europe (CFE) treaty. Such a reduction would leave the United States with 11 Army divisions and 14 fighter wings on active duty, a reduction of 7 divisions and 10 tactical fighter wings relative to the 1990 level (see Table 1).

Compared with these reductions in ground and tactical air forces, reductions in the military threat and peacetime commitments facing naval forces are less clear. Since some naval forces are committed primarily to the defense of Europe, where threats have abated, this alternative assumes cuts in some naval forces, though they are smaller relative to those in the Army and tactical Air Force.

TABLE 1. CHANGES IN THE NUMBER OF FORCES

	1990 Level	Base Case Level	Additions to the Base Case Under Alternatives I	Additions to the Base Case Under Alternatives II
Army Divisions				
Active	18	11	0	0
Reserve or cadre	10	10	2[a]	5[b]
Air Force Tactical Wings[c]				
Active	24	14	0	0
Reserve or stored	12	12	5[a]	7[d]
Navy Ships[e]				
Active	518	429	0	0
Reserve or stored	33	33	35[a]	14[a]/54[d]
Marine Corps Brigades				
Active	9	7	0	0
Reserve or cadre	3	3	1[a]	1[b]

SOURCE: Congressional Budget Office.

NOTE: The base case would make large reductions in active forces. Alternative I would retain flexibility by adding selected reserve units. Alternative II would retain flexibility with new approaches to reserves.

a. Selected reserve units.

b. Cadre units in peacetime.

c. The base case and Alternatives I and II also delete nine airlift squadrons. Alternatives I and II add seven airlift squadrons to the Air Force reserve components.

d. The equipment associated with these force elements would be stored in rapidly retrievable status in peacetime.

e. The base case deletes three carrier air wings from the active Navy. Each alternative adds one air wing to the Naval reserves.

Specifically, under the base case, the Navy is assumed to have 429 active-duty ships--a reduction of 89 vessels. Included among the reductions are 2 of today's 14 aircraft carriers, plus their associated surface combatants and three air wings. After this change, the total number of air wings would equal the number of deployable carriers. In addition, this alternative assumes that all 4 battleships, 15 attack submarines, 31 amphibious ships, and other support vessels would be retired. Two Marine Corps brigades would also be eliminated.

How quickly could these far-reaching changes in active forces be carried out? Although answering that difficult question is not the focus of this testimony, changes of this magnitude could clearly not be carried out in an orderly manner in just a year or two. Carrying out these changes over five years might be reasonable. But, even if spread over five years, active-duty cuts of the size assumed in this alternative would probably require substantial involuntary separations of career personnel, particularly in the Army. Selected civilian communities would also be adversely affected, particularly those near military bases or factories that would be closed or reduced in size.

Effects on Military Capability. Once fully carried out, the active-duty reductions under this base case would substantially reduce U.S. military capability. The capability of Army ground forces would fall by about 24 percent, while tactical air capability would be reduced by about 30 percent (see Table 2 and Table A-2). These estimates of ground and tactical air

capability are based on a scoring method that takes account of both the quantity and quality of weapons.

While substantial, these reductions in ground and tactical air capability may be acceptable in view of reductions in the threats to U.S. security. A key reason for maintaining ground and tactical air forces is to deter--or, if necessary, fight--a war in Europe. But the proposed CFE treaty, coupled with the movement toward democracy in Eastern and Central European nations, makes war much less likely and reduces the military threat if war should occur. For example, in 1988 the ratio of Warsaw Pact to NATO

TABLE 2. EFFECTS OF ALTERNATIVES ON U.S. MILITARY CAPABILITY ASSUMING FULL MOBILIZATION RELATIVE TO 1990 AND THE BASE CASE (In percent)

	Reductions Below 1990 Level Under Base Case	Additions to the Base Case Under Alternatives I	II
Army Ground Forces	-24	9	22
Air Force (Tactical)	-30	23	32
Navy Ships	-16	8	15

SOURCE: Congressional Budget Office.

NOTES: The base case would make large reductions in active forces. Alternative I would retain flexibility by adding selected reserve units. Alternative II would retain flexibility with new approaches to reserves.

Estimates of Army ground capability are based on weapon effectiveness indices and weighted unit values (WEI/WUV) scores. Estimates of Air Force tactical air capability are based on scores derived by using a technique for assessing comparative force modernization (TASCFORM). Estimates for the Navy compare numbers of ships. For further discussion, see "Meeting New National Security Needs: Options for U.S. Military Forces in the 1990s" (CBO Paper, February 1990).

forces in Central Europe was about 1.6 to 1 in favor of the Pact, a ratio that some viewed as unacceptable (see Table A-3). Today, however, NATO might have to be concerned only about the forces of the Soviet Union, and Soviet forces would be substantially fewer in number after the CFE treaty is carried out. Thus, even with the large reductions in U.S. forces assumed under this alternative, coupled with proportional reductions on the part of all the NATO allies, the ratio of Soviet to NATO forces in Central Europe in a post-CFE environment would be about 1.1 to 1. This ratio would be a marked improvement, compared with the earlier ratio of 1.6 to 1, and it should be acceptable to a defensive alliance like NATO.

Budgetary and Manpower Effects. Under this base case, the annual budgets for the Army, Navy, Air Force, and Marine Corps would total about $227 billion, a reduction of about $43 billion compared with the 1990 level (see Table 3). Almost half of the total savings would stem from changes in the Army.

Once fully in place, this base case would leave the United States with about 1.6 million personnel on active duty, a reduction of about 463,000 below the current level (see Table 4). Since there would be no reduction in the number of reserves, the reserve share of the total force (active-duty and selected reserves) would rise from 36 percent today to about 42 percent (see Table A-4). DoD civilian manning would decline to 838,000.

TABLE 3. LONG-RUN BUDGETARY EFFECTS
(In billions of 1990 dollars)

Service	1990 Level	Base Case Level	Additions to the Base Case Under Alternatives I	II
Army	77.6	58.0	2.6	3.2
Air Force	92.9	83.1	4.2	2.1
Navy	87.6	76.6	3.3	2.6
Marine Corps [a]	12.0	9.5	0.4	0.3
All Services [b]	270.1	227.2	10.6	8.3

SOURCE: Congressional Budget Office estimates from Department of Defense Budget data.

NOTES: The base case would make large reductions in active forces. Alternative I would retain flexibility by adding selected reserve units. Alternative II would retain flexibility with new approaches to reserves.

Numbers may not add to totals because of rounding.

a. Some Marine Corps funding is provided by the Navy. Marine Corps budget authority is $9.1 billion. The difference of $2.9 billion is a CBO estimate of funding for the Marine Corps in the Navy budget.

b. Includes only the funding for the four services.

The lower costs under this base case reflect reductions in both operating and procurement costs. Operating savings assume reductions in the direct costs of operating military units, as well as in the indirect costs and overhead associated with the units.[2] CBO has not estimated the specific weapons that could be eliminated under this alternative. Instead, we assume that long-run procurement savings would be proportional to the number of major units (divisions, wings, or ships) that were eliminated.

2. Direct operating funds pay for personnel and operating costs of the unit itself. Indirect funds pay for combat support that is not part of the unit, as well as for portions of training, medical care, repair facilities, and other support needed by the unit. Overhead is defined as total operating costs less those that can be associated directly or indirectly with military units. Overhead savings associated with eliminating a particular military unit are assumed to be proportional to the direct and indirect savings generated by that unit.

TABLE 4. LONG-RUN MANPOWER EFFECTS
(In thousands of personnel)

	End Strength		Additions to the Base Case Under Alternatives	
	1990	Base Case	I	II
Active-Duty Personnel				
Army	744	507	5	35
Air Force	545	460	12	6
Navy	591	490	17	10
Marine Corps	197	157	4	5
Total	2,076	1,613	38	57
Selected Reserves				
Army	756	756	75	0
Air Force	201	201	25	14
Navy	153	153	11	7
Marine Corps	44	44	14	0
Total	1,155	1,155	125	20
Individual Ready Reserves				
Army	330	330	0	90
Air Force	47	47	0	28
Navy	102	102	0	34
Marine Corps	45	45	0	12
Total	524	524	0	163
DoD Civilian Personnel				
Army	334	223	22	14
Air Force	249	226	17	7
Navy/Marine Corps	337	290	10	4
Total	1,018	838	48	24

SOURCE: Congressional Budget Office estimates from Department of Defense Budget data.

NOTES: The base case would make large reductions in active forces. Alternative I would retain flexibility by adding selected reserve units. Alternative II would retain flexibility with new approaches to reserves.

Numbers may not add to totals because of rounding.

Ability to Rebuild Quickly. The active-duty cuts under the base case would reduce costs and might be acceptable in view of the lowered threat to U.S. security. But the forces eliminated from active duty could not be rebuilt quickly in the event of an increase in the threat. Units that had been eliminated would have to be rebuilt with draftees, and new equipment would have to be purchased. This process could take years. Moreover, the base case cuts do not "stockpile" any of the talent that has been assembled in today's military. During the 1980s, the U.S. military recruited personnel of unparalleled quality and provided them with extensive training. With these cuts, as many as one-fifth of those personnel would simply be sent home.

Alternative I: Retain Flexibility to Rebuild with Selected Reserves

If the United States made large reductions in its active forces of the sort that are assumed in the base case, but wanted to retain flexibility to rebuild its forces quickly, it could transfer some of the active units that were eliminated to the selected reserves. Specifically, this alternative assumes that, to offset partially the active-duty cuts under the base case, the United States would add 2 Army divisions, 5 Air Force tactical fighter wings, 35 Navy ships, and 1 Marine Corps brigade to the selected reserves (see Table 1). The exact numbers of added reserve units were selected for illustration, but they are intended to reflect recruiting limitations that I will address later in this testimony.

As with the base case, this alternative would take some time to carry out. Not only would the base-case cuts in active-duty units have to be put in place; new reserve units would have to be established and their members recruited. Thus, it seems reasonable to assume that this alternative would require longer to put in place than would the base case by perhaps five years or more.

Effects on Military Capability. Compared with the large active-duty cuts assumed in the base case, this alternative would eventually provide greater military capability. Once mobilized, the new selected reserve units created under this approach would provide about 9 percent more Army ground capability, and 23 percent more tactical air capability in the Air Force, than would be available under the base case (see Table 2). There would also be about 8 percent more Navy ships.

Looked at another way, the reserves maintained under this alternative would offset between one-third and three-quarters of the reductions in capability caused by the active-duty cuts under the base case. Thus, once mobilized, the selected reserve units created under this alternative would provide substantial capability to rebuild military forces quickly.

But how quickly could these selected reserve forces be available in the event of war? Also, how ready would the units be to fight? Because the new selected reserve forces would be similar to those now in place, their

mobilization times and readiness should also be similar. For some units--particularly those in the air reserves--that would mean mobilization at about the same time as active-duty air units that are based in the United States. In contrast to air units, reserve ground units would take longer to mobilize than active-duty ground units--perhaps several months compared with active-duty units that could be available in days or weeks. Clearly, in any event, selected reserve units would be available in much less time than would be required to build an entirely new unit, which could take years.

Budgetary and Manpower Effects. The increased flexibility to rebuild forces quickly that is inherent in this alternative comes at a price. Compared with costs under the base case, with its large active-duty cuts, the annual DoD budget would eventually be higher by about $10.6 billion.

Looked at another way, this alternative would reduce DoD's annual budget by $32 billion below the 1990 level, compared with a reduction of $43 billion under the base case. Thus, the flexibility to rebuild quickly reduces savings by only about one-quarter.

Establishing new reserve units under this alternative would involve some one-time costs--principally for military construction. The Army estimated these one-time costs at roughly $400 million, though it later estimated that costs of construction and leasing could be as high as $1 billion for this option if no existing facilities could be used. The Navy and Air Force

could not supply any estimates without more detailed information about the location of new reserve units than CBO could provide. Because of these uncertainties, and because they are one-time expenses, these costs are not reflected in the annual savings in this testimony.

There would, of course, be more personnel in the selected reserve under this alternative. Selected reserves would increase by about 125,000--a gain of 11 percent compared with either the base case or the current level. Compared with the base case, there would also be an increase of about 38,000 active-duty personnel because the new reserve units would be manned in part by full-time personnel. These shifts would cause the reserve share of the total force to rise from 36 percent today to 42 percent under the base case, with further growth to 44 percent under the combination of the base case and this alternative.

Recruiting Limitations. Adding selected reserve units would provide the capability to rebuild U.S. forces quickly, but this approach might also create recruiting challenges. Selected reserve units would have to be manned by people within driving distance of the units so that the reservists could train on weekends, which makes reserve recruiting difficult. The Navy has expressed particular concern with this problem because, to avoid large construction costs, new reserve ships would have to be located at existing ports. The reserve units at many of these ports may already have exhausted the local pool of people willing to join the reserves.

The large reductions in the size of the active-duty forces envisioned under this option would initially aid reserve recruiting efforts, but eventually would harm them. While the reductions were taking place, many personnel would be leaving active duty, and some of these would no doubt join the new reserve units. However, once the new, lower level of active-duty personnel was reached, fewer people would be leaving active duty, which would exacerbate reserve recruiting problems.

In recognition of these potential recruiting limitations, the long-term savings under this alternative reflect added costs of about $0.6 billion for additional reserve recruiting incentives. The added funds could be used to increase educational benefits or to add recruiters. The extra funds could also be used to seek ways to reduce the high loss rates among reserve recruits who have not completed their initial term of service.

Added funds, and significant recruiting efforts, might well make it feasible to add the number of new reserve units assumed under this alternative. But if the United States wants to maintain the flexibility to rebuild a large number of military units quickly, it will have to consider new approaches.

Alternative II: Retaining Flexibility to Rebuild Using New Reserve Approaches

If the United States made the large active force cuts assumed under the base case, but wanted the flexibility to rebuild a large number of forces quickly, it could put in place some of the new approaches to reserves mentioned above. The Navy could add 54 nested ships, the Air Force could add 7 wings of stored aircraft, and the Army could add 5 cadre divisions. As with the numbers of selected reserves added under Alternative I, these specific numbers are chosen for the sake of illustration. This alternative is also similar to Alternative I in that it would require several years--perhaps five or so--to carry out.

Effects on Military Capability. Once all reserves had been mobilized, capability under this alternative would be substantially larger than what would be available if the United States only carried out the large active-duty cuts assumed under the base case. After mobilization of all reserves, this alternative would provide 22 percent more Army ground capability and 32 percent more Air Force tactical air capability than would be available if no new reserve units were created. The Navy would have 15 percent more ships.

The fully mobilized military under this approach would have substantial capability even against a formidable military foe. For example, assuming that the provisions of the proposed CFE treaty had been carried out, the U.S.

forces under this alternative--coupled with those of our NATO allies--would have modestly more ground and tactical air capability than would all the forces of the Soviet Union (see Table A-3). Thus, after full mobilization, this alternative would provide a substantial hedge against the resurgence of major security threats.

Mobilization might occur less quickly for some of the reserve forces created under this option than it would for selected reserves. Cadre divisions in the Army might be available about as rapidly as selected reserve divisions, because the jobs to be filled by nondrilling reserves in the cadre divisions require little training. For the Air Force and the Navy, however, the stored equipment would not be available as rapidly as equipment in selected reserve units, nor would the personnel. Because neither concept has been tried, the extra time required for mobilization is hard to estimate, but it could amount to several months or more.

Longer mobilization periods might be acceptable, however, in view of diminished security threats. Moreover, the time required to mobilize stored units would be considerably shorter than the time required if the units were eliminated and their equipment scrapped.

Budgetary and Manpower Effects. Compared with the base case, the annual DoD budget would be about $8.3 billion larger under this alternative. This increase is smaller than the one under Alternative I, with its emphasis on

selected reserves, even though this approach provides the flexibility to rebuild more units. The smaller added costs stem in part from the assumption that nondrilling units would keep equipment longer than reserve or active-duty units, which would result in larger procurement savings.

Compared with the base case, about 20,000 additional selected reserve personnel would be added in the Navy and Air Force. An additional 163,000 nondrilling reserves would be required, though they would only serve on active duty in time of war. Under this alternative, reserves as a percent of the total force--defined in this case as all those on active-duty, in the selected reserve, or in the nondrilling reserves--would grow from 45 percent today to 53 percent.

Other Advantages. In addition to providing flexibility to rebuild, the units created under this alternative would offer other advantages. One-time costs should be modest because few if any new units would be created. Also, recruiting problems should be minor since most of the reserves added under this alternative would not drill in peacetime. This alternative would also permit the United States to retain access to the services of many of the highly capable, well-trained personnel who are now on active duty.

Special Problems with Nondrilling Reserves. The alternative does, however, pose some important problems. The active-duty military--smaller by about 20 percent--would have to revamp its personnel policies significantly in order

to build up the pool of nondrilling reserves with recent active-duty experience. For example, the Army might have to accept more of the shorter, two-year enlistments and restrict the number allowed to reenlist. Doing so could add to training and other costs related to personnel turnover, but these additional costs would be largely offset by lower payroll costs associated with the increased number of junior personnel. Alternatively, the increased number of nondrilling reserves could be provided through some form of national service.

Perhaps more important, the military services have expressed many reservations about these approaches during informal conversations with CBO. For example, service officials expressed concern that the active-duty military might unfavorably view an assignment to a cadre unit that, in peacetime, had few troops. This attitude could lead to low morale and the assignment of less than the best-qualified officers. It also might be difficult to maintain nested ships and stored aircraft in usable condition.

Some of these concerns may reflect a distaste on the part of active-duty leaders for any approach that appears to retain substantial military capability while eliminating active-duty forces. But these approaches may also have important drawbacks. In any event, little historical experience exists with which to evaluate the validity of the services' concerns.

This lack of historical experience suggests the need for more information. To obtain it, DoD could be asked to assess approaches of this sort during the Total Force Policy Study that is now under way. Moreover, the Congress could require a test of these approaches. Rather than simply eliminating active divisions, the Congress could direct the Army to create one or two cadre units and evaluate the success of the concept. Similarly, the Navy and Air Force could be required to experiment with storing equipment and creating methods to man the equipment in war.

CONCLUSION

In conclusion, if the United States chooses to increase reliance on reserve forces, it could do so in many ways. Some approaches would involve adding more units to the selected reserves or making better use of the units now in place through techniques such as adding aircraft to existing squadrons (robusting). Other approaches would be new, including nested ships in the Navy, stored aircraft in the Air Force, and cadre units in the Army. Compared with keeping units on active duty, these approaches would save money. All of them would also retain the ability to rebuild forces quickly in the event of a change in threats to U.S. security.

What approach would be best if the United States decided to increase reliance on the reserves? Selected reserves are the time-tested approach

and offer important advantages. The number of selected reserves that could feasibly be added to U.S. forces would, however, be limited by the difficulties of recruiting enough reserves who live sufficiently close to units to permit them to drill regularly.

Thus, if the United States wants to retain the flexibility to rebuild a large number of forces quickly, it will probably have to make more use of new approaches to reserve forces. But risks are inherent in any new concept, which suggests the need for additional information. The Defense Department could obtain information through formal reviews or through a test of these new approaches.

APPENDIX TABLES

TABLE A-1. ESTIMATED ANNUAL OPERATING AND SUPPORT COSTS FOR SELECTED ACTIVE AND RESERVE FORCES (In billions of 1990 dollars)

Service/Force Element	Component	Direct and Indirect[a]	Overhead[b]	Total	Reserves as a Percentage of Active Forces[c]
		Army			
European Heavy Division	Active	2.3	1.6	4.0	
CONUS Heavy Division (ARNG)	Reserve	0.4	0.3	0.7	20
		Navy			
10 FFG Frigates	Active	0.2	0.1	0.3	
10 FFG Frigates	Reserve	0.2	0.1	0.2	80
Air Wing (86 aircraft)	Active	0.4	0.2	0.5	
Air Wing (86 aircraft)	Reserve	0.2	0.1	0.3	55
		Marine Corps			
CONUS Division	Active	1.6	0.8	2.4	
CONUS Division	Reserve	0.4	0.2	0.6	25
		Air Force			
European F-16 Wing (72 aircraft)	Active	0.3	0.2	0.6	
CONUS F-16 Wing (72 aircraft)(ANG)	Reserve	0.2	0.2	0.4	70

SOURCE: Congressional Budget Office computations based on budget data.

NOTES: Numbers may not add to totals because of rounding.

CONUS = Continental United States; ARNG = Army National Guard; FFG = Fast-Frigate Guided; ANG = Air National Guard.

a. Direct operation and support (O&S) costs are those tied closely to individual units. Examples include civilian and military pay, fuel, some supplies and spare parts, modifications, and munitions. Indirect O&S costs pay for items that are necessary to support units, but are not linked as closely to particular units. Examples include funds for operating bases, depot maintenance, training, management support, medical care, personnel support, logistics, and other centralized support functions.

b. Represents a proportional reduction in that portion of the service's budget for military personnel and for operation and maintenance not covered by direct and indirect factors. The proportion is based on a ratio of O&S costs for the units eliminated to the total estimated O&S costs for combat units. CBO assumed that these costs would not change with small changes in the number of active and reserve forces.

c. Rounded to the nearest five percentage points.

TABLE A-2. EFFECTS OF ALTERNATIVES ON U.S. MILITARY CAPABILITY ASSUMING FULL MOBILIZATION RELATIVE TO 1990 LEVELS (In percentages)

	Reductions from 1990 Levels		
	Base Case	I	II
Army Ground Forces	-24	-18	-8
Air Force (Tactical)	-30	-14	-7
Navy Ships	-16	-10	-4

SOURCE: Congressional Budget Office.

NOTES: The base case would make large reductions in active forces. Alternative I would retain flexibility by adding selected reserve units. Alternative II would retain flexibility with new approaches to reserves.

Estimates of Army ground capability are based on weapon effectiveness indices and weighted unit values (WEI/WUV) scores. Estimates of Air Force tactical air capability are based on scores derived by using a technique for assessing comparative force modernization (TASCFORM). Estimates for the Navy compare numbers of ships. For further discussion, see "Meeting New National Security Needs: Options for U.S. Military Forces in the 1990s" (CBO Paper, February 1990).

TABLE A-3. EFFECTS OF ALTERNATIVES ON SELECTED INDICATORS OF MILITARY CAPABILITY ASSUMING FULL MOBILIZATION

	1990 Levels[a,b]	Base Case[d]	Alternatives[c] I[e]	Alternatives[c] II[e]
Army Ground Forces				
Warsaw Pact/NATO Ratio	1.6 : 1	1.4 : 1	1.3 : 1	1.2 : 1
Soviet/NATO Ratio	1.2 : 1	1.1 : 1	1.0 : 1	0.9 : 1
Tactical Air Forces				
Warsaw Pact/NATO Ratio	1.2 : 1	1.1 : 1	0.9 : 1	0.8 : 1
Soviet/NATO Ratio	1.0 : 1	0.9 : 1	0.8 : 1	0.8 : 1
U.S. Navy Ships	551	462	497	530

SOURCE: Congressional Budget Office.

NOTE: The base case would make large reductions in active forces. Alternative I would retain flexibility by adding selected reserve units. Alternative II would retain flexibility with new approaches to reserves.

a. These levels ignore the unilateral force reductions currently being carried out by the Soviet Union.

b. Ground force ratios based on Warsaw Pact forces available in 1988.

c. All estimates of the effects of alternatives assume that NATO's proposed version of the CFE treaty has been fully carried out.

d. These estimates assume proportional reductions by the NATO allies.

e. These estimates assume NATO allies reduce their forces in proportion to active reductions.

TABLE A-4. RESERVE PERSONNEL AS A PERCENTAGE OF TOTAL MILITARY END STRENGTH

	1990 Level	Base Case Level	Additions to the Base Case Under Alternatives I	Additions to the Base Case Under Alternatives II
Percentages Including Only Selected Reserves in Total Force				
Army	50	60	62	58
Air Force	27	30	32	32
Navy	21	24	25	24
Marine Corps	18	22	27	21
Total	36	42	44	41
Percentages Including Nondrilling and Selected Reserves in Total Force				
Army	59	68	68	68
Air Force	31	35	37	38
Navy	30	34	34	37
Marine Corps	31	36	39	38
Total	45	51	52	53

SOURCE: Congressional Budget Office.

NOTE: The base case would make large reductions in active forces. Alternative I would retain flexibility by adding selected reserve units. Alternative II would retain flexibility with new approaches to reserves.

Chairman NUNN. Thank you very much, Doctor. I am going to just ask a couple of questions and then rotate around here.

Which service now comes closer to any of these models in the way they utilize their Reserves? Is there any precedent here that we are basing either the base case or Alternative I or II?

Mr. HALE. All of them, but particularly the Army, make extensive use of the selected Reserves. In that sense, I suppose the Army makes heaviest use of what we are talking about doing in Alternative I. It relies more on Selected Reserves. I think none of them relies heavily now on Individual Ready Reserves, not to say that they are not figured into the wartime planning, but they are not figured into specific units in the same way that they are in Alternative II, with new approaches. So, Alternative II represents a greater departure, I think, from what we are currently doing.

Chairman NUNN. What are the unique problems that the Navy Reserves has or may have with this concept?

Dr. REISCHAUER The problem there, particularly when we are talking about the Selected Reserves, would be that the ports where the ships would be, unless we establish new ports, have pretty well tapped the pool of Reserves that are available; so they might have a difficult time attracting the numbers of individuals that would be needed. And if we went to new ports, we would then require some capital expenditures to start, up and that might not be viewed as appropriate, given the budget constraints.

Chairman NUNN. I understand some naval Reserve units are flying people in so that you are not necessarily having to rely on just the local geography. Are you taking that into account?

Dr. REISCHAUER I do not think we did.

Mr. HALE. We have not looked at it in detail. It would certainly be an option. The other thing the Navy has said to us informally is that—particularly when we are talking about the nested-ship approach under Alternative II—they are worried about their ability to keep these ships in usable condition if they do not both use them regularly, and man them as they do now with either Active or Selected Reserves.

Chairman NUNN. You pointed out in your testimony many Reserve squadrons have only 18 aircraft, when their Active duty counterparts have 24 aircraft. Last year, CBO testified before the committee that it would be possible to save $300 million a year by transferring aircraft from Active squadrons to existing Reserve squadrons, thereby increasing the number of aircrafts in those squadrons.

Do you still have that same model and computation in mind?

Dr. REISCHAUER Yes. It is mentioned in my testimony.

Chairman NUNN. You also mentioned in your testimony, the possibility of conducting pilot projects to test the viability of some of the new Reserve concepts you have outlined. Do you believe that that is the way to go, to test each one of these out. And if so, what does this do to the savings because of the time lag?

Dr. REISCHAUER It certainly would add to the time involved here, but as Bob Hale pointed out, some of these concepts represent significant departures from current practice, and it would make a lot of sense, for that reason, to test them. The concerns that the military have expressed are an added reason to consider testing. The test should be done over a substantial period of time, I think. I mean, we do not want to run a 3-month or 6-month test. You really want to run a test for a year or two, let things stabilize, and you want to make sure that the individuals in charge of these experiments have some faith that they were going to work out. For that reason you might want to put the tests under Reserve control.

Chairman NUNN. Do you have any model indicating as Active forces are reduced—which, given the budget numbers we are looking at, I think is absolutely inevitable—as those Active forces are reduced, how many of those people are likely to go in the Reserves if we make an effort in that respect? Do you have any model, do you have any projection or what are your assumptions in this respect?

Mr. HALE. Well, I think we have assumed we would get a similar portion of those leaving active duty as we are getting now. Thats what we have assumed in modeling how easy it would be to man these units.

I think what you would face, Mr. Chairman, is a fairly easy time getting people with prior service in the next few years, because we are obviously going to have a lot of people leaving active duty—as a point Senator Exon made earlier. The problem would occur 4 or 5 years from now, when we have reached a new, lower size for the services. At that point, we will have fewer losses, and the opposite will be true. We will have a greater problem attracting people with prior service.

So, the first few years may be relatively easier, that would help build up the additional Selected Reserve forces of Alternative I.

But, we have got to worry about sustaining these forces over a longer period, and that is why we put some added money for recruiting incentives into this option—not that we know exactly how much you would need, frankly. But we want to emphasize that if you go toward these options, you have got to be willing to provide added resources to be sure we get the people we need.

Chairman NUNN. Have you taken into account or did you go into this detail, the possibility of having vouchers for military service that would be usable in education? In other words, a Reserve GI bill?

Dr. REISCHAUER We mentioned that options along those lines might be helpful.

Chairman NUNN. That is what the $600 million could be used for?

Dr. REISCHAUER It could be used for that type of incentive.

Mr. HALE. It strikes me, too, Mr. Chairman, that it may be of particular interest to you that national service would be a sensible way to provide a large pool of people who would have some training in the military. It may provide a stronger rationale for national service than you have now if you go toward some of these new approaches.

Chairman NUNN. Well, I think the rationale was already there, but I would agree with you, I think the events in recent months and the direction we are headed in the military make a much stronger case for national service than already existed, for two reasons.

One is, we are going to need incentives, and another reason is, that I think one of the—well, so far not discussed inevitable results of what is happening in the military and the budget and so forth is there are going to be a lot less opportunities for young people coming into the pipeline. The military services have been the best, equal opportunity employer in America for years, and years, and years. And we are going to see a greatly diminished opportunity for young people, because we are going to inevitably see a recruiting cut down.

So, for both of those reasons, I think we need to think seriously about this. Senator Warner.

Senator WARNER. Mr. Chairman, may I inquire? Senator Thurmond, would you like to take my time slot, since you have another hearing underway?

Senator THURMOND. Thank you very much, Mr. Chairman. Mr. Chairman, I am in another committee. I just came for a while. I have to go right back. I am very interested in this subject. I am going to ask unanimous consent that my statement appear in the record.

Chairman NUNN. Without objection.

Senator THURMOND. We will have some questions and we will submit them for the record, and Senator Warner, thank you very much.

Chairman NUNN. Senator Thurmond, I do not know anyone who has been more supportive of the Guard and Reserve over the years than you, Senator Thurmond. So, whatever we decide in this respect, you will have a major role in it, as you always have. Senator Warner.

Senator WARNER. Thank you, Mr. Chairman. I think you would also want to add to that last comment, Senator Stennis, who for years, spent a great deal of his time on this particular subject.

Chairman NUNN. I agree.

Senator WARNER. Senator Nunn, I wonder if I could—it may be a little bit unusual—but if we can clarify your last statement about the opportunity. I think that is very important. I construe it somewhat differently, I believe. There will be the same opportunity for young people, provided they can find a slot into which they can go and begin their military career.

Chairman NUNN. Yes, what I am saying is, there will be a lot fewer slots.

Senator WARNER. I wanted to make sure we are on the same track on that point. Did you wish to say something in reply to that?

Dr. REISCHAUER I was just going to point out that I think there is a great deal of uncertainty about the supply and demand factors for the future. On the one hand, there will be fewer slots and more people competing for those slots, which would suggest excess demand. On the other hand, with the relaxation of East/West tensions, there might be a shift in perceptions by America's youth over whether this is a good industry, so to speak, to go into for a long-run career, or even the short run. And you will have these factors going in different directions, and I think that could be very difficult to predict how many personnel will be willing to join the military.

Senator WARNER. I think that will be up to the President and others in a position of leadership, to make it clear to young people, that there is still a great opportunity, and while there is a changing situation worldwide, by no means has this threat receded all over the world. As you well know, it is quite present in other areas of the world, despite the welcome advent of democracy in Eastern Europe.

I have continuously asked in hearing after hearing in the last few years, about the roles and missions, and the opportunity for the President, the Secretary of Defense, and now possibly, there is an opportunity in the context of this particular, important study, as to whether or not we should sit down and examine the roles and missions of the respective services, to determine what changes should be made, in light of the changing threat and the changing means by which we deter warfare, and provide for the security of ourselves and our allies.

And I just wondered, do you share that view, and were you able to incorporate any of that thinking in your study?

Dr. REISCHAUER I share that view very much. I think that would be a very sensible thing for us to do. We did not really incorporate that into our study. That process which has to occur in the executive branch.

Senator WARNER. So your study, basically, is predicated, and I say this respectfully, on the current roles and missions, as recognized within the Department of Defense for the respective services.

Dr. REISCHAUER Yes. But remember, we are providing some options here, and the options could be used in a number of different strategies—you know, you could mix and match, so to speak.

Ms. PIERROT. I think that to some extent we did look at Selected Reserve alternatives and the new approaches with an eye to considering Senator Nunn's speeches about the increase in the amount of time available for mobilization. Reserves become somewhat more interesting if mobilization times are lengthened. And so to some extent, I think we tried to reflect that conceptually, but not quantitatively.

Senator WARNER. Well, I conclude my questions just with a brief observation, that during 1950, I was a member of a Reserve outfit which was called up for the Korean War, and I saw men in my squadron flying in combat missions in less than 120 days, and performing in every respect, a professional role, co-equal with that of the Regulars. I mean, they sat side by side in the cockpit, or side by side in the planes as they took off. So, I believe in this concept.

Chairman NUNN. Thank you very much, Senator Warner. Senator Shelby.

Senator SHELBY. Thank you, Mr. Chairman.

I would like to focus in on the ships and the Naval Reserve, and the problem, possibly, that you brought up in your testimony of recruitment down the road. Let us assume that we do reduce the size of the Navy, which it looks like we will, and we rely on more reservists, the nesting of ships, various sundry proposals. If we have one or two ports, or three or four main ports, as we do today, as opposed to the proposal for home porting, will we not be tying ourselves to a pool of reservist that could shrink and shrink? Do you see what I am getting at?

Dr. REISCHAUER I think some of that depends on whether you are talking about our Alternative I, which would rely on Selected Reserves, which I think that might be a valid concern with Alternative I, but less with Alternative II.

Senator SHELBY. Because you have got to look, not just today, but 5 years hence or 8 years hence, down the road in your study, and that is what you are trying to do, is it not? Would you elaborate on that, the possible problem of the pool of Reserves and, particularly, the Navy?

Mr. HALE. To pick up on what Dr. Reischauer has said, I think if you go toward using more Selected Reserves, you will be facing that problem. The Navy is very concerned.

Senator SHELBY. This is the proposal, is it not, one of the proposals.

Mr. HALE. The other alternative—Alternative II—would not rely a great deal more on Selected Reserves. It is indeed intended to try to address the concerns the services raised about being able to recruit more reservists. Alternative II would rely more heavily on Individual Ready Reserves, who would not drill in peacetime. Heavier use of Individual Ready Reserves may present other problems, but I think that you will have to consider approaches like those illustrated in Alternative II if you want to add a lot of Reserve units to any of the services, but certainly to the Navy. I do not want to specify that one as being the only possibility.

Senator SHELBY. Because logically, then, you would have a greater pool to move out of, pull from.

Mr. HALE. Yes. You really have as a pool all those who leave active duty, because it is not critical at that point that they be in

the forward area. They would, in time of war, mobilize and fly to the port. The way we envision it, you would have these people assigned to these nested ships only for a year or two after they had left active duty in order to still have substantial capability.

Senator SHELBY. Okay. I was particularly interested in the Navy, but I realize that it would apply to any Reserve groups as we look down the road. I want to pick up on another statement the Chairman got in to, and that is the cost. Your study does not show any real costs, significant cost savings by changing into a more reliability on the Reserves in the first year, second year, but down the road. Is that correct?

Dr. REISCHAUER There would be very modest cost savings in the first couple of years, and certainly, when we are looking at outlay cuts on the order of magnitude that the Chairman spoke about in his speech, or that the Senate Budget Committee has proposed to the Senate, these kinds of changes are small relative to what would have to be saved.

Senator SHELBY. In other words, we are not going to see a windfall savings all at once?

Dr. REISCHAUER Correct.

Senator SHELBY. Thank you. Thank you Mr. Chairman.

Senator NUNN. Thank you. Senator McCain.

Senator MCCAIN. Thank you, Mr. Chairman. Doctor, on what assumptions of the threat is this whole scenario based?

Dr. REISCHAUER We have predicated this analysis on an assumption that there has been a substantial reduction in the threat, certainly in Europe, and we are providing this in a sense as a set of illustrations. Given this situation, what are some options? We have not undertaken a detailed reassessment of the threats facing the United States. That is not a function of the Congressional Budget Office.

Senator MCCAIN. So, basically, there is not any new threats that this scenario responds to. It is just a reduced threat of war in central Europe, is that correct?

Dr. REISCHAUER Yes.

Senator MCCAIN. For example, the proliferation of atom and biological chemical weapons and the means to delivery is not taken into account. What is your assumption about providing all the required increases and lift to move the units back to Europe for support and sustainability?

Ms. PIERROT. The costs and the savings that are included in the alternatives do not assume an increase in lift. We did not pay to buy additional airlift or sealift to return Army divisions or tactical air wings to Europe.

Senator MCCAIN. Do you pay to correct the readiness problems that exist in the Reserve forces at this time?

Ms. PIERROT. We assume that the Reserve forces that we added under Alternative I will cost the same as the current forces today; so that we assumed that whatever their current level of readiness would be acceptable.

Senator MCCAIN. Do you assume any threat from Eastern Europe countries?

Ms. PIERROT. We provide an analysis of the balance between the Warsaw Pact and the Soviet Union and the North Atlantic Treaty

Organization (NATO). Ratios are given comparing NATO with the full Warsaw Pact and with just the Soviet Union, excluding the non-Soviet Warsaw Pact countries. The numbers in the analysis are fairly simple balance calculations and we attempted to estimate the balance both with and without the non-Soviet Warsaw Pact countries.

Dr. REISCHAUER Appendix Table A-3—in my prepared statement—provides some of that information, Senator.

Senator MCCAIN. I understand, and I was looking at that. Is it really relevant to include the Warsaw Pact countries anymore in any study?

Dr. REISCHAUER That is why we provided it both ways. One way, we have just looked at the Soviet Union versus NATO, which, as you point out, is a more reasonable assumption at this point in history.

Senator MCCAIN. What actions do you think need to be taken in order to have the Reserve units capable of carrying out some of the functions that you attribute to them?

Mr. HALE. Let me take a shot at that, Senator McCain. I think there are two things to be done. One is to consider the changes illustrated in the alternatives in the context of having a good deal more warning time. If you have 6 months or a year, which many people are talking about now, some of the readiness problems we face today, I think, are less of a problem. The other one is providing, on a selected basis at least more resources. We have tried to do that in the recruiting arena, acknowledging that you would probably eventually have to provide more resources if you go to heavier reliance on the Selected Reserves. We have not included costs for added resources except in recruiting, but you may want to consider other additional resources, such as increased, full-time manning, and other options that have been asked for by the Reserves. I think other examples of changes are actions like increasing full-time manning. Such actions would reduce the savings or add to the costs that we have shown here. We only included added cost for recruiting.

Senator MCCAIN. Would you agree, Mr. Hale, that past experience shows us that Naval forces are the most difficult to maintain in a state of readiness by the Reserve forces?

Mr. HALE. I am not sure I have an analytic basis for that judgment, Senator. Of the services that we have talked to informally, the Navy expressed the strongest concern in that arena. So it may be true.

Senator MCCAIN. As you know Mr. Hale, we have made some valiant experiments with Reserve ships, unquote, and the people were outstanding, but the problem is that to run a ship, you have to have people there on a full time basis, and practically so. We have not been as successful as we have, say with Air Guard units or other Reserve units. Would you agree with that?

Mr. HALE. Yes, that seems fair.

Senator MCCAIN. What is the war fighting benefit of the improvement ratio?

Mr. HALE. I'm sorry.

Senator MCCAIN. The war fighting benefit, this improvement ratio that we have in A-3.

Mr. HALE. Well, what it gives you is an idea of the ratio of forces, Senator McCain. I cannot translate that into whether you would win the war or not. It is intended as a static measure in analytic terms. It counts beans; it tries to take into account both the quantity and the quality of the weapons that are involved, and in that sense, it gives you information. I do not think it tells you the outcome of a conflict.

Senator MCCAIN. Thank you very much. Thank you Mr. Chairman.

Chairman NUNN. Thank you, Senator McCain. Any other questions? Senator Exon?

Senator EXON. Mr. Chairman, thank you very much. Thank you for your very, very interesting report. I think it gets us into, maybe, a better understanding than we have had before in all this, and maybe a better understanding of the public as a whole, if they will take time to look at it.

It is my view that we certainly have much more warning time than we had six months ago, or certainly a year ago. Therefore, I assume that parts of the CBO study, and maybe the heart of the CBO study that you are presenting formally today is the theory, and I want to ask you if that is your theory, that given the reduced threat and the significantly advanced warning time, that we can draw down. In your report under one scenario, you talk about the Army falling by 24 percent, the tactical air by 30 percent, and the Navy by 16 percent. Am I correct in my assumption that it is the CBO's opinion that this reduced capability is acceptable, primarily due to the increased warning time? Is that at the heart of your study?

Dr. REISCHAUER Certainly the study is predicated on that, but I would not want this to be interpreted as a CBO recommendation. The cutbacks provided under the base case seem to be of the order of magnitude that are being discussed by the Chairman of this committee, by Colin Powell, and by others. We really are not in the business of making those kinds of value judgments. So, what we were trying to do is take sort of a central tendency of the discussion that is going on, and move on from there, asking how can we retain some capability, how can we retain some flexibility by increased emphasis on the Reserve, should large, active-duty force cuts of the sort that are being discussed come about.

Senator EXON. Well then, could we best sum that up by saying this is just one scenario?

Dr. REISCHAUER Yes.

Senator EXON. You discussed the concept of stored aircraft for use of the Reserve and Guard forces if they are called up, and you have included in the stored aircraft proposition, airlift and bomber aircraft, and attack. Assuming we have to call these people up that are ready to go, were fighter aircrafts specifically excluded from the stored aircraft concept?

Ms. PIERROT. We did not intentionally exclude them. We were simply attempting to give examples.

Senator EXON. Let me ask this question. It seems to me that rather than reduction in Guard and Reserve funds, we should be going in the opposite direction. I happen to feel that we are going to have significant warning time in the future, because of all the

information we have. I cannot see a likely scenario or one that we should put too much credence in, and therefore, too much money in, of having to go to full military alert in a matter of days. I would think it would be a matter of weeks at the outside. We do have the concern that the Chairman referred to earlier, and that is would there be the will of the commander in chief to move in an aggressive factor. If the commander in chief does not move in an aggressive fashion, then all of our planning and analysis, and what direction I think we are going to be going would be for nil, so, while that is a concern, I think we have to assume, and make it very clear from the beginning, that all of this structure, this new structure that we are certainly going to build, has to be on the assumption that there will be timely, a timely call and recognition of the problem.

See if you think I am correct. I feel that, and it is reflected in some of the statistics that you use in your report, I feel that while we are continuing to have the Army Reserves very active, I still feel that we have some reluctance on the part of the Navy, with regard to bringing the Navy Reserves in, in an appropriate fashion as we are planning to bring the Air Force and the Army Reserve. Is that assumption on my part something that you share?

Dr. REISCHAUER Certainly the Navy had more concerns about some of the new concepts that we were trying to develop than the other services did. Now, those concerns might be based on legitimate factors of the sort that we have been discussing here, that the Navy's geographic situation and the nature of its hardware are different.

Senator EXON. Well, I think that is one of our problems that we are wrestling with, and I suspect that the Navy is going to have to make more of a contribution than the Navy has thus indicated that it wants to make in the draw down of its Active forces, and I think that should be laid out on the line. I think that should be understood, and I think all should receive the message that it is at least the opinion of this Senator, that if we are going to have draw downs, that does not mean we have to have the same percentage from each one of our forces, but I do think that we have to have more cooperation than we have had thus far from the Navy, and I believe that the Naval Reserve are ready and able to play much more of a key role than the Navy seems to feel at this particular juncture.

I happen to feel that we should be providing more funds, more money to the Reserves, and the Guard in general, because with the new scenario that faces us in the world, and with the budget constraints, I think it is only logical that we go to a Reserve, have that as ready a Reserve as we think is necessary, and that decision has not yet been made. I simply say that I have been a long time supporter of the Reserve forces, and I will be a supporter, active supporter of that in the future, because I happen to feel that the Reserve forces are going to play a much more key role in our future planning in the scheme of things, than is fully recognized at this particular juncture. My time is up, Mr. Chairman. Thank you very much.

Chairman NUNN. Thank you, Senator Exon. Senator Thurmond, I do not know whether you wanted to ask any more questions of this panel.

Senator THURMOND. Not of this panel.

Chairman NUNN. We appreciate all of you being here. We have three more panels this morning. We will continue to work with you, and we thank you for your valuable contributions.

Our next panel is Mr. Will Hill Tankersley. He has had a very long and outstanding career of service to our national security, and much of it has been in leadership positions in the Reserve component. Will Hill served 8 years in the regular Army, and is a decorated, combat infantry veteran of six campaigns of the Korean War, a ranger and a master parachutist. After his active duty service, he went on to a distinguished career in the Army Reserve, and retired from the Army Reserve as a major general. In 1974, Mr. Tankersley was nominated by President Ford and confirmed by the Senate as Deputy Assistant Secretary of Defense for Reserve Affairs. He served in that position until 1977. At that time, I was chairing the Manpower and Reserve Subcommittee, Manpower and Personnel Committee on the Armed Services Committee, and I worked very closely with him and have continued to do that over the years with great benefit to me.

In October 1985, Secretary of Defense Weinberger, appointed Mr. Tankersley to serve a 4-year term as Chairman of the Reserve Forces Policy Board, and under his direction, the Reserve Forces Policy Board advised the Secretary of Defense on a broad range of issues and policies that have helped to modernize and integrate the Reserve components into a genuine and ready total force. No one has worked harder than our distinguished witness this morning, to make the total force a reality, and we are all in his debt. We are delighted for you to be here today.

Senator WARNER. Mr. Chairman, if I might add my warm words of welcome to this distinguished American. I recall having served in the Department of Defense in that period of time, 1969 to 1974, and it was Secretary Melvin Laird whose foresightedness and wisdom really laid the foundation for the doctrine of the total force policy, working together with former Chairman Buzz Wheeler of the JCS, followed by Admiral Moorer.

Those were the teams, and you will recall that, and maybe you might just amplify on that foundation, because it has been a solid one through the years.

Senator SHELBY. Mr. Chairman, if I could just be brief here. Senator Warner mentioned Admiral Moorer, and of course he was a native Alabamian, as Mr. Will Hill Tankersley is, and I certainly welcome him here today. He has a distinguished record, as you have pointed out, and coming from Montgomery, Alabama, I would not miss his hearing.

Chairman NUNN. Mr. Tankersley.

STATEMENT OF WILL HILL TANKERSLEY, FORMER CHAIRMAN, RESERVE FORCES POLICY BOARD

Mr. TANKERSLEY. Mr. Chairman, thank you very much, gentlemen. I would like, if I may, to pick my way through my statement

which you have here before you. It was my privilege, as you have mentioned, to become Deputy Assistant Secretary of Defense for Reserve Affairs in the fall of 1974 and to be involved in the initial implementation of the Total Force Policy, which, as Senator Warner said, came initially from Secretary Laird and moved on with Chairman Wheeler and others, and has become subsequently such an important element of national defense readiness.

Senator WARNER. It was not an easy job to lay that foundation, if you recall.

Mr. TANKERSLEY. It was not an easy job to lay that foundation, and in comparing some of the things we are trying to do now, I think it will be a lot simpler to do what we are talking about now, than what we were talking about then.

At that time, the Reserve forces ceased to be standby forces and began a continuing process of evolving into truly ready forces.

If, because of recent world events, the decision is made to reduce Active forces and institute a greater utilization of Reserves, we must be certain, that any new missions assigned to them, and this is what Senator Glenn emphasized, are missions within their capabilities and that the necessary resources and training are allocated to the added mission. The Reserve forces must be prepared to perform all missions assigned them with a high confidence of success. They must be able to arrive on time on the battlefields to which they are to be sent, with the weapons and equipment required to do the tough jobs they will face. The national security will be in peril if they are not so supported and prepared.

The purpose of all the Armed Forces of this country is to go to the battlefield, and fight and win, to destroy the willingness of the enemy to resist. Toward that end we have a lot of other things that they do, the training, the education, but basically, it all boils down to the hard, dirty job of winning the country's wars. And it is a hard, dirty job, and that job is what we are talking about, and anything else we can do now in preparation can be done a lot cheaper.

Yet important as their military duties are, and this is very significant, until required they remain for the citizen warrior an avocation. Guardsmen and reservists have full-time civilian jobs, which are the vocations upon which they depend for their livelihoods. They almost invariably have substantial family and community responsibilities as well. The time they can devote to their military duties is therefore limited and delineated until an actual call to active duty. And we all have got to be ever mindful of this.

As a consequence, the missions that are assigned to Reserve forces must be appropriate for these forces. We must not assign missions to the Guard and Reserve which, by the very nature of the Reserve forces, it is unreasonable to expect them to accomplish: the submarine mission in the Navy, the strategic reserve mission of the 82d Airborne Division, the missile silo mission of the Air Force.

We want to recruit and retain in the Reserve forces the best people we can get. And the average Active unit has 225 days a year to train, the Guard and Reserve, 40 to 50. Nevertheless it is unreasonable and illogical to expect that even though we have the advantage of a greater continuity of personnel in Reserve component units, we can be successful with less competent personnel in the Active components.

Conversely, if you make unreasonable demands on members of the Reserve component units and pit their civilian vocations against their peacetime military avocations, we will lose many of our best people. Corporations and businesses rely on having their employees available for their jobs, just as do the commanders of Reserve component units. This simply is a fact of life in a free market economy.

Of course, all of this does change when the emergency arises and Reserve component units are activated. My concern is that there is a high degree of readiness during peacetime when Reserve units are being prepared for the eventuality of a crisis.

There are programs in all the Armed Services to integrate Reserve units into Active force structure, round out affiliation, Reserve component units training with their active duty counterparts, and the like. The Army Capstone program allows Active and Reserve component units to meet wartime operational deployments, and as you know, similar programs exist in all the other services.

In my judgment these programs should be just the beginning. If we are going to place greater demands on Reserve forces as the draw down takes place in the Active forces, then we must move to Total Force Plus. There must be even greater integration of the Active and Reserve forces.

I believe that a symbiotic synergism can be gained by assigning some Active component personnel, both officers and enlisted, to Reserve component units. I believe they should be integral to those units. I am aware that many people disagree with me.

Chairman NUNN. That point there, if I could interrupt, that is a point where a lot of the Reserve and Guard people do not agree. Is that right?

Mr. TANKERSLEY. And the Actives, too.

Chairman NUNN. Tell us why. I think that is an important point and we are going to have to cope with it.

Mr. TANKERSLEY. Well, I think, Senator, as you know, most folks are comfortable with their own people. I think part of it goes back to Hamlet, of playing things you know not of. It is much like, as Senator Warner mentioned, prevailing sentiment when this Total Force concept came about. The new program was so revolutionary, as you well remember, that there was a great resistance and resentment toward it. But when they got into it, and the dessenters found how beneficial it was, the dissension rapidly dissipated and detractors then decided that the program was the sensible approach. I think the same thing will happen here.

But the real point is that the one thing that you cannot accept is not to try. You have got to organize units on various conceptual foundations with different mixes of Regulars and Reserves, your flexible response, Senator, and after giving them a reasonable period of time to train, to test these units and decide which has attained, as Senator Glenn says, the highest level of combat readiness.

We know that when you do not want to hear the answer, the best way to avoid it is not to let the question be asked. And what I am saying is that you have got to get into this notion of developing these units along the basis of integrating the active into the Re-

serves and Guard, and then look at these units and test them objectively. If this plan proves wrong, then let us try something else.

Chairman NUNN. The more equipment you put in Reserve units, particularly the more sophisticated equipment, the more maintenance is required, the more this becomes necessary to have some type of either Active force or full-time Reserve force.

Mr. TANKERSLEY. You are absolutely correct, and this factor is something that is often missed. Equipment is a benefit, but it also is a burden. And if you have state of the art equipment in units, you must maintain it in a state of the art manner. You leave a tank sitting out in the open for 6 months without proper maintenance and go out and try to crank it up, if it does not crank you will blow all the seals.

Now the Israelis—and all of you have been to Israel and seen what they have over there—in those tank parks, they have the tanks zipped up into covers like body bags with electronic devices on them that protect them. They each have a tag that shows when the vehicle was put in a mothball situation. You select one randomly and they will zip it out, crank it up, and drive off. We can do a lot of that too with a lot of our equipment.

And say, for example, in an armored division, you might need only a third of the equipment to train, and the other two thirds can be in the kind of storage I've described. But you have to have people there for maintenance. If you use reservists to do the maintenance, and I know this is so because I commanded a Selected Reserve force unit, an Engineer Group, during the Vietnam War, after a while those reservists do not have any time to train, because they are constantly maintaining the equipment. That factor is also very important.

Senator WARNER. If I might interrupt, is that an area which lends itself to legislation?

Mr. TANKERSLEY. I do not think you need any legislation, Senator.

Senator WARNER. Requiring a certain number of divisions have integrated Reserve?

Mr. TANKERSLEY. All you need is the resolve. The legislation is there. We do not need any more laws. You just need to tell the services to have it. They must be committed to try.

Senator WARNER. In other words, it is the Alabama farmer, the board to the butt of the mule.

Mr. TANKERSLEY. That is correct, sir.

Chairman NUNN. I think you are theoretically correct, but I have noted over the years, sometimes it takes legislation to develop resolve.

Mr. TANKERSLEY. Well, you get back to that mule and the two by four.

But anyway, the program that I am talking about would have the corollary benefit of educating more active duty officers on matters that are peculiar to Reserve component units. Over the years, what you see are many officers who get up to be colonels and generals, and all of a sudden find out there is a Reserve and a Guard. I am guilty.

When I was an S–3 of a regular Army infantry regiment out at Fort Carson years ago, to me, reservists and Guardsmen were

people that came out and messed up my range schedule, because I had to work them in. What you have if you do not take these Active officers and have them integrated periodically into Reserve and Guard units as captains and majors is a situation, 10 years later when they are lieutenant colonels and colonels in very important positions in the Department of Defense or the services, making critical decisions about Reserve forces and they have no real knowledge.

Unless experienced, it is hard to understand all of the pulls that a reservist and a Guardsman have on them, with their jobs and with their families. And this reservist or Guardsman who is all gung-ho for the Guard and Reserve, after a while, in his law firm or in his business, the boss comes in and he says, John, you know, I know you like this Guard and Reserve, and you are the best guy we got here, but you are always gone when we need you, and so we are going to fall back on another employee. This is not an abstract example. It is real.

But if you had these active-duty officers and non-coms, these Regulars working in with the Guard and Reserve units, they would have an understanding and appreciation of the whole picture. You do not have to live in the woods to be a bear, but it sure helps.

It appears to me, with the cuts you may have to make within the Regular rank, this would afford the possibility of retaining a lot of Regular officers. They could go back and forth between components. Then when the war comes, if it comes, you would have a base, you have seed corn, an additional cadre, as a base for expansion.

I have two caveats, though. First, the commanders of all Reserve component units should be Guardsmen or reservists. If you put Reserve component units under the command of Regular officers, I believe most Guardsmen and reservists would not be interested in staying in these units.

Second, cadre-type active units on the European model with Reserve fillers would destroy the character of our Guard and Reserve units—and their identity with communities—which have served us well for over three centuries. The continuity of the bonds of comradeship and the pride of being from a certain locality is an enormous strength that means a great deal toward achieving battlefield success. Witness the 116th Infantry, the Stonewall Brigade of the 29th Division, the Blue and Gray.

In many cities and towns across our country, local Guard and Reserve units are the only military presence that exists. Their members are the warp and woof of these communities. They make it easier for you in Congress to gain the support of the electorate for an adequate defense when there are so many other demands on the tax dollar.

This Individual Ready Reserve (IRR) augmentation sounds fine, and I think the IRR has a place. There is no substitute for the bonds of comradeship and unit identity. When people go to the battlefield to fight, Senator Thurmond, you know having been there, when men go to war, they really are not thinking about flags or the 82d Airborne Division or mom's apple pie, they are thinking about not letting down that little group of people right around

them and their squad, platoon, or company. And those are the people that they are fighting for.

These bonds of unit cohesion cannot be welded coming on occasional weekends in a strange community working with unfamiliar people, going to summer training with them. You need closer ties to develop the essential reliability. One thing you do not want to do on the battlefield or anywhere else is let your own people down.

An analogy to this—you can give me, in any football conference in this country, a team about in the middle of the standings, and you can pick all-stars from all the other teams and I will beat you every time, because I will have that cohesiveness that my team has developed from loyalty and rapport that your all-stars do not.

I read a great deal in the press lately about the peace dividend, and I remember after World War II a large peace dividend was declared almost immediately—that along with our Secretary of State's declaration that South Korea was outside of our sphere of interest, resulted in the encouragement of the North Koreans to invade South Korea. A lot of brave, young Americans died as a consequence.

As Senator McCain cited in a speech sometime ago, my West Point class of 1950 paid an awful price reconstituting that dividend. Of my five roommates, three were killed in that conflict within about 2 years of our graduation. It is therefore heartening to me to see that this committee and this administration are determined to examine carefully any specific action taken to reduce defense spending to ascertain that we do not jeopardize thereby the national security.

A genuine reduction of the threat should indeed allow us to divert our tax dollars into other programs that will enhance the national welfare. But decisions on the specifics will not be easy, and I do not envy you or the Department of Defense in the difficult task ahead.

It seems to me that there are more bold and imaginative ideas at work that are no less impossible than some of the things we accepted as usual today seemed to be back in 1973, when the Total Force Policy was inaugurated. And it seems to me that the time has come for the Total Force Plus, and we should proceed to this goal without delay.

May I have your questions, gentlemen?

[The prepared statement of Mr. Tankersley follows:]

STATEMENT OF WILL HILL TANKERSLEY

The Department of Defense (DoD) defines the TOTAL FORCE POLICY as "The totality of organizations, units and manpower that comprise the Defense Department's resources for meeting the national military strategy. It includes the manpower resources comprising DoD active and reserve military personnel, contractor staff, and host-nation support personnel." The Defense Department implemented the TOTAL FORCE POLICY in 1973. It has been fundamental to U.S. national security policy ever since.

It was my privilege to become the Deputy Assistant Secretary of Defense for Reserve Affairs in the fall of 1974 and to be involved in the initial implementation of the TOTAL FORCE POLICY. From that time the Reserve Forces ceased to be stand-by forces and began evolving into truly ready forces.

Today, the National Guard and Reserve are full partners with the active forces. Reserve component units are integrated into many theater operational plans. Large-scale combat operations could not be successfully conducted without the reserve components. Recent combat actions in Panama testify to this fact. Reserve component units contribute significantly to our combat, combat support and combat service support elements. Since the TOTAL FORCE POLICY was implemented, the reserve components have achieved unprecedented levels of capability and readiness.

If, because of recent world events, the decision is made to reduce active forces and institute a greater utilization of reserves, we must ascertain that any new missions assigned to them are within their capabilities and the necessary resources and training are allocated to them. They must be prepared to perform the missions assigned them with a high confidence of success. They must be able to get to the battlefields to which they are to be sent on time, with the weapons and equipment required to do the tough jobs given them. The national security will be in peril if they are not.

Important as their military duties are, they remain an avocation for the citizen warrior. Guardsmen and Reservists have full time civilian jobs which are the vocations upon which they depend for their livelihoods. They have family and community responsibilities as well. The time they can devote to their military duties is therefore limited until they are called to active duty. We must be mindful of this.

Therefore, the missions that are assigned to reserve force units must be appropriate for them. We must not assign missions to the Guard and Reserve which, by the very nature of the Reserve Forces, it is unreasonable to expect them to accomplish.

We want to recruit and retain in the Reserve Forces the best people we can get. The average active unit has 200 days a year to train. The Guard and Reserve unit averages only 60 or 70. It is unreasonable to expect that, even though we have the advantage of a greater continuity of personnel in reserve component units, we can be successful with less competent personnel. However, if you make unreasonable demands on members of reserve component units that put their civilian vocations in conflict with their military

avocations, you will lose many of your best people. Corporations and businesses rely on having their employees available for their jobs just as the commanders or reserve component units do. This is a fact of life in a free market economy. The employees and the reservists are the same people in both cases. Of course, all of this changes when an emergency arises and reserve component units are activated. My concern is during peacetime when reserve units are being prepared for the eventuality of a crisis.

There are programs in all of the Armed Services to integrate reserve units into the active force structure. Round out and affiliation programs have been very successful. Reserve component units train with their active duty counterparts. The Army's CAPSTONE program aligns active and reserve component elements to meet wartime operational requirements. Similar programs exist in the other Services.

In my judgment this should be just the beginning. If we are going to have a greater utilization of the reserve forces as draw downs take place in the active forces, we must move to TOTAL FORCE PLUS. There must be a greater integration of the active and reserve forces.

I believe that a symbiotic synergism can be gained by assigning some active component personnel, both officers and enlisted, to reserve component units. I believe that they should be integral to those units. I am aware that many people disagree. Some think that actives should be assigned in addition to what the unit Tables of Organization (TO) allow. I am convinced that it would be better if there were a leaven of active duty personnel in TO slots.

These Actives would be the full time manning of the reserve component units. The numbers of active personnel assigned would depend on the type of unit in which they were to serve, the projected unit deployment schedule, and other factors. These active personnel would perform tasks of administration, maintenance, training management and other functions vital to units on a continuing basis. This would result in more time for Guardsmen and Reservists to train during the unit training assemblies and field training periods.

This program would have the corollary benefit of educating many active officers on matters that are peculiar to reserve component units. They would gain a great deal of knowledge about the National Guard and Reserve very early in their careers. This knowledge would be invaluable to them later in their careers as they prepared programs that involved the reserve components. It would also allow us to retain a large number of highly competent and experienced active officers who would otherwise have to be released from active duty in the impending drawdown of the active forces.

I would suggest that a number of reserve component units be structured to integrate active component personnel in different modes. After a reasonable period of time elapsed, these units should be tested to determine which organizations produced the most combat ready units.

I have two caveats. First, the commanders of all reserve component units should be Guardsmen or Reservists. If you put reserve component units under the command of active officers, I believe most guardsmen and reservists will not be interested in staying in these units. Second, cadre type active units on the European model with reserve fillers will lose the character of our guard and reserve units and their identity with communities which

has served us well for over three centuries. The continuity of the bonds of comradeship and pride of being from a certain locality is an enormous strength that means a great deal toward achieving battlefield success. In many cities and towns across our country, local Guard and Reserve units are the only military presence that exists. Their members are the warp and woof of these communities. They make it easier for you in the Congress to gain the support of the electorate for an adequate defense when there are so many other demands on our tax dollars.

I've read a great deal in the press recently about the "peace dividend." I remember that after World War II a large peace dividend was declared almost immediately that, along with our Secretary of State's declaration that South Korea was outside of the sphere of interest of the United States, resulted in the encouragement of the North Koreans to invade South Korea. A lot of brave young Americans died as a consequence. As Senator McCain cited in a speech a year and a half ago, my West Point Class of 1950 paid an awful price reconstituting that dividend. Of my five roommates, three were killed in that conflict within about two years after our graduation. It is therefore heartening to me to see that this Committee and this Administration are determined to examine carefully any specific actions taken to reduce defense spending to ascertain that we do not jeopardize the national security. The greater majority of all Americans agree that the reduction of the threat should allow us to divert our tax dollars into other programs that will enhance the national welfare. The decisions on the specifics of achieving this end are not easy. I don't envy you and the Department of Defense in the difficult task confronting you.

I believe that the Reserve Forces of the United States can figure importantly in the decisions that you make. They have never failed our country and they won't now. However, we must re-examine the use of the reserve components of all of the services and how they can best enable us to achieve an adequate defense at a reasonable cost. We have come a long way since the TOTAL FORCE POLICY was implemented in 1973. I've cited a few suggestions that I think will improve it. There are many more bold and imaginative ideas that are no less impossible than some of the things we accept as usual today seemed back in 1973 when the TOTAL FORCE was inaugurated. The time has come for TOTAL FORCE PLUS to begin. We should proceed without delay.

Chairman NUNN. Thank you very much, Mr. Tankersley. Your testimony will be very helpful.

Let me just ask you a couple of questions. Back in 1987, at that time you were Chairman of the Reserve Forces Policy Board, and I am sure you had some insight into this. It became necessary to deploy Navy mine sweeper ships to the Persian Gulf in the re-flagged tanker operation. As you recall, almost all the Navy's mine sweeper ships were in the Naval Reserve. When the Navy sent the mine sweepers to the Persian Gulf, the Navy took the Reserve crews off the ships and replaced them with Active crews.

Looking at that example gets to the larger question. Does this indicate that we are going to have reluctance, even in the service, the Secretary of Defense, the White House, somewhere, to call Reserves, even when the mission itself is based on the equipment that they are unique and trained in and so forth? This is what undermines, to me, the overall feeling that I have that we can rely more on Reserves. Can you comment on that? Maybe there was a reason for it that is not apparent.

Mr. TANKERSLEY. Senator, I have got to go back to get to the precedent. When I was responsible for Reserve affairs, the planned solution came out of my office, and I worked on it, and with my staff was responsible for the development of much of this. The 50,000 call-up, that is now the 200,000 call-up, and when I say I worked on it, you and I worked on it.

Chairman NUNN. We worked it together.

Mr. TANKERSLEY. You and I, and Sonny Montgomery and others talked about this call-up that we felt was so important because the Regulars had lost confidence during the Vietnam War. They believed if they put resources in the Reserve and the Guard, they would not be able to retrieve those resources in time of emergency. That was the major reason for it.

In the example you cite, there were only about 150 reservists involved. Rather than institute a call-up, they got a lot of volunteers. I submit that that was a viable option at that time, that the Navy and DOD had the choice to use the authority or not to institute it, and I am certain there were good reasons that they did not.

In my judgment, and I speak in isolation of this, had I been making this decision, I would have instituted the call-up.

Chairman NUNN. You would have called the Reserve?

Mr. TANKERSLEY. Yes, sir, and the reason I would have done it, as minuscule as were the numbers involved, is the perception on the part of the Regulars, that if they had this need that they could not get these resources, they couldn't count on getting cohesive trained units. I think that was counterproductive.

Now, as I said, there were probably countervailing considerations, I remember at that time in some quarters according to the media, sending anybody to the Persian Gulf was not very popular. Perhaps a decision was made by the President or the Secretary or the CNO with that in mind.

But my thought was purely and simply, to reassure the Regulars that if they need their Reserve component units, they can get them. Let me digress to my experience.

When I commanded that Engineer Group in the Vietnam War, the Chief of Engineers came to our summer field training at Camp Shelby. He looked over what we had. Every officer on my group staff was a professional engineer, except me, and I had a degree in engineering. Like Senator Warner said, these were first-class people. The Chief told us, in Vietnam at that time, they had a dearth of qualified people. He said that in engineer battalions in Vietnam they might have two professional engineers. Your units would not stay together long because the Army would spread our people out. Yet, all of these people that were trained and ready to go were not available. They were off bounds to the military.

Chairman NUNN. Do you believe we need any additional authority? Or do you think that 200,000 members for up to 90 days of Selected Reserve, without declaring a national emergency—and that was one of the key things, not putting the President in the position of having to declare a national emergency. Do you think that is adequate legislation now?

Mr. TANKERSLEY. Absolutely. I just think it takes resolve, but I hope that it is looked on—it ought not to be an unusual thing. If

you go to Israel, everybody there, as you know, who is in the IDF, in the Reserve, they expect to be called.

Chairman NUNN. We passed that law with the hope in mind that if the President exercised it, the public would not be in a position of believing we were about to have World War III.

Mr. TANKERSLEY. Exactly.

Chairman NUNN. So that every time he called up a few Reserve units, the public did not think we were about to go to all-out massive war, and that was the reason it was passed. I remember it very well, the logic of it.

Mr. TANKERSLEY. And I think the logic was sound. But on the other hand it is like providing training for combat. I do not think you ought to have to just shoot a couple of people in the unit every now and then to prove what is going to happen if the unit goes to war. You ought not to have to call these people up a couple times a year just to prove that you will do it.

But when the requirement exists and the need is valid, it is absolutely essential to maintain the perception on the part of the Actives that they can get their needed Reserve resources and that this can be done in fact when required.

Chairman NUNN. Thank you. Senator Warner.

Senator WARNER. We are operating now on the hypothesis of additional warning time. I wonder if we need to follow on Senator Nunn's point. Do we address the ability of the President to do certain things in that period of time? In other words, if we do not take the advantage of this hypothesis of additional warning time, which may become an actuality—hopefully never, but it might—do you think the President has enough authority to act, when we are just operating in the gray area of warning time before actual combat begins?

Mr. TANKERSLEY. Yes, sir, I do. But, you know, it gets back to my point, the Guard and Reserve have got to be perceived generally that if the country has an emergency to be dealt with that they will be called. But again, I want to stress, I do not think that you can get any more out of reservists and Guardsmen, as far as time is concerned, without losing people because the demands—the 48 drills a year, and the 15 days in the summertime, are just the beginning.

The amount of free time that these dedicated young Americans spend working and training is considerable—there is nothing left that can be reasonably demanded of them in my judgment. Better equipment is required. Of course, you have got to have the lift to get them over there. But the enhanced basic readiness, in my judgment, the difference you seek has got to come from more and better full-time manning. And I think Actives ought to be used to do that.

Senator WARNER. You are very explicit in your views about a number of things. And I respect those, because you draw on a lot of experience. Let me give you a little experience I had one time, when I was privileged to be Secretary of the Navy.

Mr. TANKERSLEY. Yes, sir.

Senator WARNER. I felt so strongly about the Total Force concept, and to support the Secretary of Defense and at that time the uniformed side which worked with me, that I broke the code in the

E-ring and promoted for the first time in the history, the admiral in charge of Naval Reserve to three stars. And it was a hell of a traumatic experience for everybody around there. But being good sailors, they saluted and marched off. He was elevated.

The day after I was gone you know what happened. Maybe it was a little after—I cannot go back exactly how long.

Chairman NUNN. Did they shoot him? [Laughter.]

Senator WARNER. No, they did not shoot him. But it was a convenient retirement and phase-out, and his successor resumed two stars, and it has been that way ever since. Maybe that is the way it ought to be.

But I just ask you—you understand how the military works. It is a wonderful organization. If I were not here—I would not be here if it had not been for brief periods of inauspicious active duty that taught me a lot.

My point is, should we not try and encourage the elevation of that top officer serving with the Departments of Navy, Army and Air Force to a rank above two-star where it is today?

Mr. TANKERSLEY. Yes, sir, I think it would send a message. When I had the Reserve affairs job, Vice Adm. Pierre Charbonnet, who you know was——

Senator WARNER. Oh, I knew him well.

Mr. TANKERSLEY. And he was a super supporter of Total Force—he lives down near you in Virginia. He was a first class fighting sailor. But you know the Navy better because of your experience. I have great admiration for the Naval Reserve.

Senator WARNER. Wait a minute, you are just losing me here now, when you are telling me I have more experience than you, mister. Maintain credibility——

Mr. TANKERSLEY. With the Navy, Mr. Secretary.

Senator WARNER. Oh, with the Navy. All right.

Mr. TANKERSLEY. But they have their way more than the other services. They just slip the lines and go over the horizon when they do not like what they hear. I was struggling to preserve the Navy Reserve at 85,000. And I threw myself on the pyre—Senator Nunn knows—3 years in a row and each time thought I was going to get fired. Senator Nunn and others saved me.

Some in DOD were trying to cut the Naval Reserve back to 55,000. And all of a sudden, I discovered that some of the major advocates of this cut were the regular Navy themselves.

There are a lot of people in the regular Navy who were not terribly enthusiastic about their Reserve except for certain Reserve programs. They like the Seabees; they like the Carrier Air Corps and the Anti-Submarine programs.

The Navy Reserve program is different from all the other services. Basically, what they have got are—you know, the NRF ships, are not really Reserve ships at all. They are Regular ships commanded by Regular officers with a Reserve augmentation of the crew. They used to have one-third augmentation by the Reserves, now they have a quarter. But on the Regular ships the Navy has essentially an augmentation of IRR's. That is the way I would explain it. There is nothing wrong with that. They have different problems.

Senator WARNER. My time is up. But I have to say, in defense of the Navy, that there is a unique problem.

Mr. TANKERSLEY. Yes, sir. I understand and agree.

Senator WARNER. Primarily, co-location of ships in ports and often away from population centers. And we cannot just—that is, we the Congress and the President—lay down a blanket.

Mr. TANKERSLEY. No, sir.

Senator WARNER. You know, every military department will do exactly this and that, and a certain percentage of every military department—that is not going to work. The Navy has a uniqueness, and therefore, we have to recognize it.

Mr. TANKERSLEY. Yes, sir. Forward deployment alone is of great concern to the Navy. You could put all the shore billets in the Reserve. But if you did that, you would have a lot of the Regular forward-deployed all the time. It is tough enough now to recruit and retain with the time the Regulars have to spend away from home port. It is a very difficult situation.

Senator WARNER. Was not Charbonnet also from Alabama?

Mr. TANKERSLEY. No, sir, his family was from New Orleans, Louisiana. His father was the surgeon for the First Infantry Division in World War I.

Senator WARNER. I just wanted to make sure that Alabama did not dictate the whole hearing here.

Chairman NUNN. Thank you, Senator Warner. Senator Shelby.

Senator SHELBY. Will Hill, I just want to tell you again we appreciate your testimony here. And if we are going to rely, as it looks like we are going to have to, more and more on the Reserves, be it the Army, Navy, Air Force, Marines, so forth, it seems to me that we are going to have to upgrade, one, the equipment and the training and try to select, as much as we can, these personnel. You talked about people.

And that is number one, I think that is, being cohesive, being able to work together, train together, develop the pride and so forth.

What is your bottom-line message to this committee this morning? Your number one priority, when we are thinking about the Reserves—all of them?

Mr. TANKERSLEY. Well, I would tell you that the National Guard and the Reserve of this country have never failed this country, and they never will. I went to Shiloh last weekend, and I walked that battlefield. And I looked there where those militia units of both sides came together in April of 1862, so many of them green troops, and it occurred to me that what those men on both sides did was remarkable. And the 116 that went ashore for the 16th Infantry on D-day at Omaha, those people were remarkable in the fighting 69th. And we can go on.

What these units have done recently in Panama, and what I saw in Korea, and what the units did that went to Vietnam, is a saga of valor and dedication. We should not lose confidence in our Guard and Reserve. But I would say that you ought to get the best available people to advise you on the National Guard and Reserve. Everybody wants to give you the best advice, but there is no substitute for experience.

I do not know any group that you can get better advice from than the Reserve Forces Policy Board of the Department of Defense. There you have got the Assistant Secretaries for manpower for each of the services. You have got a regular general flag officer from each of the services, and there you have of each Reserve component of each service two of the most outstanding flag general officers. You have a Coast Guard rear admiral, and you have a Coast Guard Reserve rear admiral.

These people don't have to have anybody tell them about the Reserve forces. They are not an abstraction to them, because they have lived the life of Guardmen and reservists everyday for many years. These people are outstanding in their civilian communities. They have had lots of command time in the Reserve components. By statute, they are independent and they report to you through the Secretary of Defense.

One of the finest things that you have going for you, I think, is this annual report on the Reserve component programs of the Reserve Forces Policy Board. The Chairman, the ranking minority member and their counterparts on the other side of the Hill along with Sonny Montgomery, who I guess is the Congressman from the Reserve forces, have recommended that every Member of Congress and the Senate read the RFPB, at least the executive summary and have their staff read it in its entirety.

I think this report has become—thanks to Bill Berkman and others and the competent staff who have served with him—the definitive document on the Reserve forces. I would respectfully suggest that you insist that this document be here every year as soon as you can get it, so you have vital information when you go into the budget process. And from time to time, call those people over here from the RFPB and ask them for their views. And I guarantee you, if you ask them, they will tell you.

Chairman NUNN. Thank you. Senator Shelby, do you mind yielding for a moment to Senator Thurmond, he has got to go.

Senator SHELBY. I am through.

Chairman NUNN. Okay. Senator Thurmond.

Senator THURMOND. Thank you, Mr. Chairman.

Mr. Chairman, I have got to leave in 3 minutes. I will just ask one question, and he could answer the rest of them for the record.

Mr. TANKERSLEY. Yes.

Senator THURMOND. General Tankersley, we are very glad to see you again. We appreciate your fine record of service for the country. I want to ask this, in your judgment, what are the greatest shortfalls in our current Reserve forces?

Mr. TANKERSLEY. As far as shortfalls, the Guard and Reserve lack some equipment. Some of this problem will be resolved automatically as a draw-down of Active forces occurs.

I think that, full-time manning, full-time support, when there are people to maintain equipment, do administration, perform logistical requirements to allow the reservists and the Guardsmen to train—and that that is where you need the most support.

And another thing, an understanding of the Reserve and the Guard by a lot of people and what should be reasonably expected from them. They do have tremendous capability. But, Senator, when I consider all that makes the Total Force viable you have

done—if Sonny Montgomery has been the Congressman for the Reserve forces, you have certainly been the Senator for the Reserve forces.

I think the kind of understanding that you and other members of this committee, especially the two gentlemen sitting next to you, Senators Nunn and Warner, have, I think that goes a long way.

Senator THURMOND. General, in your statement you advocated assigning Active component personnel, both officers and enlisted, to Reserve components. How would the function of these active-duty soldiers differ from the full-time or AGR soldiers? Are you advocating eliminating the AGR program?

Mr. TANKERSLEY. By and large, yes, sir, I am. And the reason I advocate that, I think, on balance, I believe we can get a better person for our requirements. Now, you must have some AGRs, as an example, on the staff of the RFPB, on the staff in the Pentagon various staffs, the Guard Bureau, the Office of the Chief of Army Reserve. You need some full-time people who can come up in the National Guard and the Reserve. But by and large, I think that with the Regular, all things being equal, you have a better qualified person for the job. Also you have a currency of experience in Active troop units.

This currency is very important. When he finishes commanding a company in the 82nd Airborne Division this experience is invaluable or being on a ship in the Mediterranean, and then is assigned to a TO&E position in a Reserve or a Guard unit.

Now, you may say, they are going to compete with the Reserve and the Guard for the slots and they are going to—but there are some ways to handle that. You can let reservists and Guardsmen go to Reserve service schools, like the command staff, or have them attached to the unit to work special projects, and you can pay them half-pay if feasible. There are ways to keep them on board at these times.

But I think that the Active presence—and if they are going to fight together in Guard or Reserve units—there is no reason they cannot train together and be a cohesive part during peacetime. Now, I know a lot of people around this room disagree with me, but I believe that implicitly.

Senator THURMOND. Mr. Chairman, I am going to have to go. If he could answer a few more questions for the record, I would appreciate it.

Mr. TANKERSLEY. Yes, sir.

Senator THURMOND. Thank you very much.

Mr. TANKERSLEY. Thank you, sir.

Chairman NUNN. Thank you.

Any other questions? Will, we thank you very much and hope you will stay in touch with us, as we try to sort our way through all of these decisions this year.

Mr. TANKERSLEY. Yes, sir.

Senator WARNER. I join in that appreciation.

Chairman NUNN. We have a distinguished panel at this point. We have Lt. Gen. La Vern Weber. I believe I have already introduced General Weber. He is the Executive Director of the National Guard Association of the United States. General Weber's retirement in 1982 culminated 42 years of military service to the Nation,

the last 8 of which were spent as Chief of the National Guard Bureau.

Maj. Gen. Evan L. Hultman is the Executive Director of the Reserve Officers Association. General Hultman had a distinguished career in the Army and recently completed the term representing all U.S. Reserve officers in the NATO organization, Interallied Confederation of Reserve Officers.

Our committee has had a long and productive working relationship with both the National Guard Association and the Reserve Officers Association over the years. Both organizations are a very valuable source of expertise and advice on issues affecting the Reserve components. And both of our witnesses here today have had outstanding careers, and we appreciate very much you being here.

General Weber, we will let you lead off, and then we will hear from General Hultman.

STATEMENT OF LA VERN E. WEBER, LIEUTENANT GENERAL, EXECUTIVE DIRECTOR, NATIONAL GUARD ASSOCIATION OF THE UNITED STATES

General WEBER. Thank you, Mr. Chairman.

Let me begin by telling you how pleased we are to represent our respective organizations here with you today. And we applaud you and the Committee for calling this hearing to give us an opportunity to come on board and hopefully to pass some suggestions to you that may be helpful in your deliberations.

I would like to take just a few minutes to discuss some issues that were not fully elaborated on in my written statement, and I would request, Mr. Chairman, that my long statement be inserted in the record.

Chairman NUNN. I have read it, and I found it very helpful. And it will be in the record without objection.

General WEBER. Thank you, sir.

The first is our views on the total force policy. And let me say at the outset that we subscribe to many of the points that Mr. Tankersley brought up earlier. We think that the real value of Total Force is still in front of us. So, we can do so much more than we have done at this point in time.

We remain convinced that the Total Force Policy has been the basis of most of our successes over the past 20 years in increasing the readiness and reliability of the National Guard as a partner in the Total Force. We believe it has been instrumental in achieving the startling successes of deterrence and movement toward peace.

We believe it has worked well in the past and can serve just as well in providing a framework for the required force structure decisions of the future. So we are convinced that now is the time to reemphasize the Total Force policy and to use it to help provide maximum defense for minimum cost.

Along that same line, we need to be sure we take advantage of the lessons learned during previous force reductions. Past demobilizations have decimated our defense capability and ultimately resulted in greater cost to reconstruct our forces. Premature actions can be devastating in the National Guard, especially in the case where mission or structure changes are initiated, and then, shortly

there after reversed after more consideration has been given to the decision.

The Guard has difficulty overcoming the turbulence of such action because of its basic structure and non-mobile manpower resource. While draw-downs on overseas deployed forces can probably proceed at this early point, force structure changes in the National Guard should be deferred until a new military strategy, force structure and force mix decisions are more firm.

We know the Congress, and this committee in particular, is seriously considering what role the National Guard and Reserve should have in the rapidly changing defense posture. We believe there are two aspects that must be considered in answering that question. The first is the cost-effectiveness of National Guard forces.

Obviously, that must be a consideration, when one of the primary drivers of change is the demand for budget reduction and peace dividends. Few would argue that Guard and Reserve units are not less expensive to maintain, primarily because of lower manpower and overhead cost, and lower operating tempo.

The second factor can be termed combat effectiveness. That is, can they do the job, and are they accessible. We believe the answer is an emphatic, yes, to both questions. Certainly a combat readiness level of 84 percent in the Army National Guard is evidence that the application of the Total Force Policy and the strong support of Congress can result in a mission-capable Guard force.

The Air National Guard success is even better, with all of the flying units combat-ready except those few that are in conversion to new and more modern equipment. Accessibility is certainly harder to confirm. But the issue itself is artificial and self-imposed, in my judgment. The Guard is ready and willing to participate. In fact, they have participated in almost all major conflicts and minor contingencies. But they have done so on a volunteer basis because of a political reluctance to use the available call-up authority.

The bottom line is, we know the Guard can provide lower cost forces, and we firmly believe they can provide mission capable units across a broad spectrum of missions, just as they have done in the past decade.

The next question is what missions are they best suited to perform? We believe the Guard is willing to approach this period of turbulence and change as an opportunity to improve their role in the Total Force and as a challenge to take on new and revised missions.

One area that we strongly recommend to be considered is robusting our current units, and this is for both the Army and the Air National Guard.

Chairman NUNN. General, would you tell us what you mean by that term, "robusting"?

General WEBER. Robusting is a product of people, equipment and training tempo. As an example, it was stated earlier by a witness that for the most part the tactical fighter-type units in the Air National Guard are equipped with 18 aircraft. In the Active force, they are routinely manned with 24 aircraft. For a very, very minimal additional cost to bring that up to the 24 aircraft in the Guard

and Reserve results in a great, great quality improvement, as well as combat-capability in those units.

And I do have some comparative cost figures that—this is from the Air Force—to operate—the difference between an 18-PAA squadron and a 24-PAA squadron requires only $4.6 million. That relates to the base cost of 18 aircraft being $32 million, 24 aircraft being $37 million to operate for a year.

So you get a 33-percent increased capability for a 14-percent increase in cost. And we think that is substantial. Now, if you want to compare, again using Air Force costs, the Air National Guard fighter-type squadron with the Active force, it costs 55 percent of the cost of an Active unit to run an Air Guard unit. But really what it does is increase the number of aircraft, in this instance, increases the number of pilots, again, consistent with the active force organization. And with that, you have to add the flying hours and the training opportunities for them. But you get this tremendously enhanced capability. The same rationale can be used in certain units in the Army Guard as well.

Chairman NUNN. Thank you.

General WEBER. To reemphasize, robusting is increasing the size of current units. It is the most cost-effective method of retaining mission forces by simply adding equipment, manpower and related resources to an existing unit. This is not a new unit. It is an existing unit.

We also believe there are some missions that can be transferred from the Active component to the Guard, but all factors should be reviewed. That is, have we reduced cost or gained in some other area by taking such an action? Have we gotten the readiness, the combat capability that we had programmed as we considered that particular change?

The final point I would like to make relates to our involvement in the social fabric of the community, State and national levels. I particularly appreciate Mr. Tankersley's comments on that issue, because it is so very, very critical. And Secretary Marsh related to that as well this morning.

This is the real fabric that ties the defense of our rural areas to what the decision-makers in Washington are doing. As we have something like 4,500 communities around the country that have National Guard and Reserve units—that is truly the grass roots of our organization; it is equally as important in that every member of the Congress has one or more units, National Guard or Reserve in his or her district. So this is a great source of information for the Members of Congress as they are developing decisions and solutions to the various problems.

I believe I will stop with that, sir. And I will be pleased to respond to any questions.

[The prepared statement of General Weber follows:]

STATEMENT BY

LIEUTENANT GENERAL LA VERN E. WEBER (RET.)

EXECUTIVE DIRECTOR

of the

NATIONAL GUARD ASSOCIATION OF THE UNITED STATES

INTRODUCTION

Mr. Chairman and members of the committee, I appreciate this opportunity to present the views of the National Guard Association of the United States on development of force structure and force mix. Our comments reflect the perspective and experiences of the National Guard. It is our sincere belief that we, the National Guard, and the defense community as a whole are facing a pivotal point in our history. Many of the decisions made this year will be preliminary, but they will begin the process of structuring and resourcing the Total Force for the next decade. As Chairman Nunn pointed out in one of his recent speeches to the full Senate, "The question is whether we reduce military spending pursuant to a sensible military strategy that meets the threats of today and tomorrow."

In this Association's view, if the decisions are made prudently and with wisdom, the resulting Total Force will be a quality, cost effective force capable of meeting national defense goals. On the other hand, if the decisions are driven by fiscal constraints and made without adequately assessing the strengths and successes of the Total Force Policy, we believe the end result will be a force that lacks readiness, cohesion and quality.

BACKGROUND

Generally, the conditions that drove this nation to adopt the Total Force Policy in the early 1970s are basically the same as those that are driving today's austere budgets: a rapidly changing world situation and leaders seeking the optimum composition of a well manned, well trained

and well equipped cost effective and combat ready force. Prior to the implementation of the Total Force Policy the National Guard suffered from major resource shortfalls. Further, recruiting and retention were major problem areas. Its leaders were merely passengers on the planning, programming and budgeting train. The low levels of training readiness and equipment modernization were indicative of the attention given to them by the defense community and our Nation's leaders. The inability of the system to recognize and use the Guard force as a resource by mobilizing and deploying units in the late 1960s and early 1970s was another factor in the creation of the Total Force Policy and the presidential callup authority.

The Total Force Policy brought about reliance on the National Guard. Along with that reliance came resources and a sense of partnership. Just a few of the results of this policy implementation were:

- At least partial integration into the planning, programming and budget cycle.
- Expanded integration into a broad spectrum of contingency and war plans.
- Modernization of the force structure to parallel their active component counterparts.
- Participation in training around the world and specifically in areas where the Guard will be expected to fight with a by-product being nation building.
- Training to, evaluated for and meeting the same standards as the active component.
- Significant improvement in the capability to meet the strength and readiness levels required of a force that is expected to meet mobilization and deployment schedules.
- Participation in recent contingency operations.

No doubt at the outset of the implementation of the Total Force Policy in the early 1970s the leadership wondered if the Guard and

Reserve could meet the challenges that they were assigned. The accomplishments over the last 20 years have been astounding, in large measure because all the components of the various services in conjunction with the Congress dedicated themselves to providing the programs, relationships and resources (manpower, equipment and training) that would ensure success. The Total Force Policy has provided the vehicle for this nation to meet its conventional commitment cost effectively and efficiently.

READINESS AND STABILITY

The National Guard is at the highest state of readiness in its history. Currently 84 percent of the Army National Guard units have been rated combat ready. In the Air National Guard, basically all units are combat ready except those undergoing conversion. The stability of the National Guard force and its experience level make a significant contribution to sustainment of the readiness levels.

Throughout its history, units of the National Guard have been a part of the fabric of their local communities. They have traditions which support recruiting and retention. Force structure changes in the National Guard carry not only turbulence for unit personnel but for the entire community, as do base closings. The National Guard community fully realizes that part of the drawdown and adjustments to the force structure will require changes in the National Guard. However, we want to emphasize that because of their community base and the demographics, the National Guard cannot expand and contract with the same ease that the active components can. Personnel cannot simply be moved elsewhere and summarily restrained. We suggest that the price of premature changes in the force structure of the National Guard are unnecessarily high.

Even in times of a mature threat and stable war plans, the National Guard has been identified for force structure actions that were reversed soon after, in other words premature change. If these things can happen with a mature threat, what could the outcome be with an ill defined

threat as the basis for restructuring the force? The plans we have seen to date from the Services as relate to the National Guard appear to be premature. The major forces identified for action in FY 1991, not to mention the POM years 1992 through 1997, need to be sorted out and worked through.

We strongly believe that the sorting out and working through must be done prior to the scheduling of any definitive action. If it is not, we will be faced with massive disruption from which we may not be able to recoup even after we have defined the threat and finalized the force structure requirements.

THE FUTURE

The views of several members of this Committee on military strategy and the approach to changes in the military force have been presented in recent speeches and press releases. These comments and proposals provide a number of thoughtful approaches to the complex problem of slowly building the military force of the future.

Senator Nunn in the last of his series of four defense floor speeches to the Senate provided a detailed proposal on the new military strategy toward which this nation should be heading. There are five major elements in this military strategy and I would like to highlight just a few of points from three of the five elements. These issues have been common to many of the recent discussions in which this Association has participated.

We fully support Secretary Duncan's contention that "missions should be considered for assignment to the Reserve forces unless there are sound and apparent military reasons for assigning the missions to the Active forces." The National Guard has met the demands assigned by the precedent setting Total Force Policy and that level of achievement and performance should be the benchmark for decisions about its future.

As the military strategy is being developed and the Total Force Policy is being reviewed, we frequently hear comments about the

accessibility and availability of National Guard forces. The political considerations involving the 200,000 presidential callup authority and the fact that these forces were not mobilized during the Vietnam conflict are often discussed. I can only emphasize that the National Guard will be there whenever it is called. The over 570,000 men and women joined the National Guard to serve their country. If they are not called, they will, and consistently do, volunteer to be deployed. Operation Just Cause is a prime example of the dedication and availability of these personnel.

It was not the National Guard who decided to stay home during Vietnam and it has not been the National Guard who has chosen not to activate the presidential callup authority. Congress has provided the system to accomplish a call up, but successive administrations and the military leadership apparently consider the political costs too high to activate the callup. The system is there, the procedures are in place, and the National Guard is ready to go whenever it is called.

Leaving the general philosophy of increased utilization, let us look at the suggestion to increase aircraft within the existing National Guard structure. First, we are fully supportive of the idea of robusting our Air National Guard units. Robusting Air Guard flying units by adding additional aircraft and related resources is one of the most cost effective methods of buying increased capability. Further, if the authority was provided to increase crew ratios, robusting would be an effective way to absorb some of the personnel that are leaving the active component, particularly pilots and highly skilled maintenance technicians. Robusting is traditionally linked with expansion of Air National Guard capabilities, however, it also can be applied to the Army National Guard by adding elements such as squads, platoons and companies to existing units within the already established command and control mechanism.

Both the Army and Air National Guard are currently involved in overseas rotations. Their performance of these rotational missions attests to the feasibility and success of such a program. Mission and rotation requirements would, of course, need to be evaluated on an individual basis in order to determine their appropriateness for assignment to the National Guard.

Also mentioned in connection with mission transfers is the possible assignment of active duty pilots to National Guard and Reserve units. There is a precedent for active Air Force pilots flying with National Guard units. Under Project Season, brand new Air Force pilots were assigned to Air National Guard units for their initial training with experienced pilots. However, the recent proposal in Element #3 implies that active Air Force pilots would be assigned to National Guard units in order to assure aircraft and crews would be available for unanticipated missions or emergencies. Units structured for rotational missions or accepting missions requiring rapid deployment should be resourced to fully accomplish those missions.

The transfer of mission from the active force to the National Guard also needs to be considered philosophically. In our view, it is crucial that the Army and Air National Guard should not be organized or missioned uniquely except in rare cases where there are compelling military reasons. Instead, their structure and missions should provide for Guard participation in a broad spectrum of contingency and war plans. Given the long standing reticence to mobilize the Reserve Components, placing an entire mission in the Guard causes the loss of flexibility to cover all possibilities anticipated and unanticipated. In addition, there are two serious drawbacks to assigning entire missions or weapons systems to the National Guard -- resourcing and force integration or compatibility.

The equipment buildup of the 1980s and modernization under the Total Force Policy are finally bringing the Active, Guard and Reserve components to a point where they are fully interactive and compatible.

But, experience has shown that unique missions or equipment which are placed in the National Guard or Reserve do not receive adequate support from the active components during the programming and budgeting cycles. The National Guard does not have a sufficient voice in these processes to overcome the indifference by the Services. Additionally, unique weapons systems and missions require the development of military doctrine and a training and schools base. The National Guard, while capable of running its own training base, must be fully involved in the doctrinal system of the services. Ultimately, the limited resourcing and failure to modernize causes readiness to suffer.

Force integration during contingencies or wartime conditions is critical to the success of the mission and the survivability of the force. Communications, maintenance support and system compatibility are vulnerable areas even with the current system of cross sectioning the missions between Active, Guard and Reserve components because of differences in generations of equipment. The inability to communicate and maintain levels of operation on the battlefield seriously degrades mission capability.

The Chairman's recent proposal for retiring the older, single purpose equipment systems is in line with moving the Total Force toward full compatibility. We appreciate that the proposal recognizes that many of these systems are currently operated only in the Guard and Reserve and that replacement with non modern equipment from deactivated active force units would be accomplished. However, before any action is taken, restructuring and distribution decisions and plans should be completed. The recent proposals for restructuring of Army aviation left the Army National Guard vulnerable because it would have had to release older, mainstay aircraft well in advance of receipt of newer equipment while the mission requirement remained unchanged. Cost savings are important, but they should not be made at the expense of the capability to perform the combat mission.

The last specific issue we would like to address relates to what the Chairman has called flexible readiness. For several years, this Association has recognized the importance of training devices and simulators for the National Guard. Training devices and simulators, even on the small scale currently available in the National Guard, make a major contribution. They are a cost effective way to maximize training time, provide meaningful training and produce ready units. We sincerely appreciate the support of Congress for development and procurement of these valuable resources in the recent past. Increased funding for simulators is, indeed, a timely investment in view of the adjustments expected in operating tempo and the increasing technology of weapons systems.

There are several forums looking at the basic issues of restructuring the military force and we welcome this thorough and thoughtful examination of such a critical issue. Congress is to be applauded for initiating a full study of the Total Force Policy. The complexity of the issues involved in the Total Force Policy, force structure, force mix, resource allocation and threat assessment raise serious concerns about the ability of the study group to provide the desired comprehensive review and recommendations within the time allotted.

SUMMARY

The Total Force Policy is a success because the Active, Guard, Reserve and Congress realized that in the long term it was advantageous for each service to develop capabilities capitalizing on the strength of all components. This has provided the nation with a cost effective, better trained, better manned and better equipped combat ready force.

Notwithstanding the fact that there are a great many uncertainties yet to be quantified, we recognize that we are facing a time of great opportunity. The decisions to be made will allow for creative redefinition of missions, expansion of responsibilities and extension of cooperative relationships between the Services and the Guard. We look

forward to our role in the development of workable alternatives and the implementation of the resulting military strategy. We feel it is necessary to add a cautionery note to encourage the Congress to go slowly on force structure actions involving the National Guard in order to avoid the damage premature changes will cause. Of equal importance is your support of a premise which we believe is fundamental -- whatever the size of the Total Force, the components within each Service must be organized and missioned alike at comparable levels of manning and mission capable equipment.

The strength of the Total Force Policy is in its simplicity. Much like the U.S. Constitution, the policy is clear, concise and flexible enough to accommodate the needs of the present and future. Changes to it should be done judiciously.

Chairman NUNN. Thank you very much, General Weber. General Hultman.

STATEMENT OF EVAN L. HULTMAN, LIEUTENANT GENERAL, EXECUTIVE DIRECTOR, RESERVE OFFICERS ASSOCIATION OF THE UNITED STATES

General HULTMAN. Mr. Chairman, and members of the committee, on behalf of the 115,000 Reserve officers from each of the uniformed services, I appreciate this opportunity to present our views to you. I want to thank you and all the members of the committee and, especially, your staff, for all the help that you have been, all of the attention that you have given to these very serious problems, and commend you at the outset for starting a roadmap, and a very, very good roadmap, as to where we have been, where we are and a thorough discussion of where we need to go.

The Association has provided your committee statements concerning fiscal year 1991 and our thoughts in greater detail, and I would commend those statements for careful reading and ask that they be made a part of the record.

Chairman NUNN. They will be part of the record. And I want to thank you for providing that. Some of those details have been very helpful to us. We have analyzed those. And we would encourage you, if you have any other thoughts—and, General Weber, both of you—as we go along. The process issue is going to last a little longer than—it is going to get started a little later, because we are going to be waiting on budget numbers.

And so we will have some time here, and I hope we could encourage you both and your association to react to some of the things you hear today and to keep us informed of any changing views or additional views you may have.

General HULTMAN. Thank you, Mr. Chairman. And we welcome that opportunity, and we are going to take you up on it; we assure you.

Let me just very briefly deal with an observation or two on those four items, the four questions that you asked us. And these, I think, are illustrative and illustrative only. But they do provide some detail to your four questions.

First of all, the future role, in general, of the Reserve forces. Clearly, ROA agrees with you, Mr. Chairman, when you identify greater utilization of the Reserves as that third element of your new military strategy. Additionally, of course, I think the President himself in his report on national security strategy that he issued in March, he, likewise, indicated that our national security strategy ought to include greater reliance on the Reserves.

So, it seems that the issue today, as we are here and as we look to the future and the tremendous responsibility that you and your colleagues have, is not whether our nation will place increased reliance on the Reserve, but rather, how soon, and to what degree, and in what forms.

ROA has been a strong advocate of a comprehensive study. In fact, in our testimony—my testimony a year ago—we said that we needed to re-examine our Nation's Total Force of the future. And, of course, none of us dreamed of the events that have taken place that have made that not only necessary or a good idea, but absolutely critical. And we applaud you and the Congress for requiring such a study by the Secretary of Defense and have provided our perspectives on this important issue, including our Total Force philosophy, to the Total Force study group as late as last week in their meetings.

Second, your second question was additional or expanded missions for the Reserve components. There certainly is no longer any doubt that the Reserve forces built during this last decade of the 1980's—thanks in large measure, again, to the support provided by this very committee—are capable, as Vern said a while ago, of performing their assigned missions. Continuing operations from Lebanon to Libya, to Grenada, to Panama have all demonstrated the readiness and the capabilities of our modern Selective Reserve.

They are unlike and very different, of course, and I do not think we should ever compare them today with the poorly equipped and trained Reserve forces in the past. Even with the large Active force of the 1980's, though, every contingency has required the participation of Reserve components. And we think this is not only a necessity, but it was a key part of the design in the thought and the thinking of you and your colleagues back when you put that Total Force concept out there. And now it has become a reality.

And, thus, it is, we believe that since many missions can be accomplished very clearly by either the Active or the Reserve forces—some unique to the Active and should be performed by the Active, but many of them are accomplishable by either of these forces—we believe that the development of the most effective mix must recognize more than just the cost advantages. Although, that is where we begin, and that is where we end. And we must, with the budget constraints and the problems that that entails today.

First of all, the meaningful training that is absolutely necessary to reservists. And that has probably been the thing that has energized and given us the opportunity to improve the readiness so tremendously. Because if there is one thing in the old days that did not lead to readiness, it was when we did not have a meaningful mission and did not have meaningful training. Men and women would go to an armory on a weekend and literally had nothing to do or make up their own training in the process. And very clearly that did not contribute in any way to readiness.

Chairman NUNN. I had some of that experience in a Reserve unit. And they were good people in the unit, but it had no mission. It happened to be a Coast Guard Reserve unit. Nothing was more frustrating. About a year-and-a-half after I went into standby Reserve, partly because of that frustration of not having a meaningful mission and spending weekends not really doing something productive, about a year-and-a-half after that, 2 years after I went into standby, they started sending those units to patrol certain safety functions on lakes, big lakes in Georgia and the whole Southeast.

And it just revolutionized the training, the morale of the unit, because I knew people in there. Then later, they sent them to Charleston, S.C. for very active work on the weekends, when they trained. They'd just get a plane and fly them over there.

And I think we need to think about some of that. We have got a lot of C-130s in the Guard and Reserve. And there is no reason that we cannot utilize those to move people around. You know, we have got mobility in this, and I know the Navy has got a problem in getting enough people in certain areas. But there is no reason in the world you cannot fly people from Atlanta, GA. to Charleston, S.C. And we have got a heck of a lot of Navy people around our area, Coast Guard people too.

So, I agree with you. I am underlining the point; meaningful mission and giving people something to do is all the difference in the world. People who are in the Guard and Reserve, I think, they want something to do—95 percent, 98 percent and 99 percent of them do. And when you give them something to do and give them a meaningful mission, I just think it changes the whole outlook.

General HULTMAN. That is why, Mr. Chairman, we do have some concern—and I will not discuss it in detail. One of the alternatives, the last alternative, the CBO indicated, especially, the concept of nesting, possibly moves us too far, "deep sixing" us again, so as to speak, with no actual activity for reservists and Reserve units as units.

The second item I would like to stress is that Reserve force units do require adequate resources, which is just what you mentioned a second ago, because resources then enabled us to have meaningful training. And if there is a shortfall—and I am going to refer to a specific in a moment—it seems to me that resources are a critical part of the shortfall with a number of the units at times when we are at a reduced readiness category.

Not that it has necessarily been giving the wrong mission to the wrong unit—and of course that is a critical one to start with; we must begin there, certainly—but if we do not have the assets, if we do not have the full-time manning, if we do not have the equipment and so forth, there is no way in God's world with all the en-

thusiasm in the world, and with all the capability in the world individually, that you can bring that unit up, and give it a fair comparison of any kind. It is only when you put—as the old saying goes—your money where your mouth is and provide those assets are we given an opportunity.

Demographics, which is the third one, and that is a very critical one. And it is a critical difference between the Active and the Reserve. And all too often we forget that issue. And that is why, for example, in the discussion of the Navy, the Navy does have a unique and a more serious problem. And one that has to be handled very carefully because of that very problem.

Lastly, transferring a total capability to a Reserve force, certainly, at any time and any place in any measure requires an increase in response time for the contingency. And that one, I think, is one which, although we agree totally that there has been a threat reduction—too many have pointed to the threat coming down in Central Europe—where we all agree it has—and have said it has come down similarly everywhere, which is absolutely not the case, as you pointed out so graphically, not only in the non-conventional area, which is very clear it has not. But if you look, for example, to the Persian Gulf and just take one single measurement, that of the increased need of the United States today—just from that standpoint alone the threat is going up today worse than it was a year ago.

So, we must be very careful in that analysis of the threat, and it is so critical. And we must then act accordingly. But we must also analyze that threat in the other areas both conventional and non-conventional and make sure in what we are doing here in force structuring and force mix, that we do not say, all of a sudden, that we have got all that response time, because we do not have it in certain areas. We may even have less, as we go forward, than we had yesterday.

Now, let me make, in three areas very quickly, an observation of what those roles are—that item three that you indicated. In the case of the Army Reserve, they have—and the Guard, as Vern has pointed out—a broad group of missions that we have been handling. We agree with you that we can have greater reliance on the Army Reserve and the Guard as the part of the total Reserve in the "tooth" area. The Guard has proven that. And I think our three brigades that are in the Reserve have proven that we have had capability there. I have had the pleasure, myself, of commanding one of those three brigades.

In the case of the Naval Reserve, I would indicate to you that there are several Navy mission areas that the Reserve has already demonstrated an ability to perform in a highly professional manner and that they can be expanded. We do not need a test—and I do not mean this in denigration of anything that CBO has said, or that the Actives say about tests—but I am going to tell you, we have tested this Army and this Navy and this Air Force, and this total force now for 10, 20, years—we have tested the Total Force Policy since 1973, and it is clear that it works. And it works very good.

And if we will take that knowledge and that background and that experience, I say to you, we do not have the time to go out there and do a lot of testing. In the environment that we are in

right now, there is no way in God's world that that is the approach, in our judgment, that we can take.

In the case of the Air Force, I think very clearly in view of Secretary Cheney's decision to request 120 C–17 aircraft, rather than the 240, there is an excellent opportunity to address any resulting airlift shortfall with a lower cost Reserve option. Current projections for the usable force and the lift of the Air Force C–41 fleet are based on the Active force flying hour rate of 1,200 hours per year. Most of those aircraft were to be replaced by C–117's. However, if the C–141's were placed in the Reserve, they would be flown only 300 hours a year for normal training. The usable life, without extensive airframe modifications, would then extend clearly beyond the year 2010.

The committee may recall that this rationale was advanced when that C–5A aircraft was transferred to the Air Force Reserve. So here again, like robusting—as Vern so clearly put it a moment ago, and that same doctrine applies to both the Guard and the Reserve air side of the house—here is a simple example. It has been tried. It has been tested. It works. And the performance clearly has been a performance level that we can rely on as a Total Force in the 5-corner building, as well as the American public and you the Congress.

In the case of the Reserve manning structure, which was item three that you referred to, let me just make two quick observations. The first one was the Army Reserve. There is no question that the single most important structure change and we do not think there has to be a lot of structure changes out there—but the most important structure change that must be made for the Army Reserve, and it is clear—all the studies that have been made by everyone, study after study by you, the Congress, by the Pentagon and so forth—have recommended that this particular change take place: that the Army Reserve like the Air Force Reserve and like the Navy Reserve be put in charge of and responsible to a chief of Army Reserve, rather than the form that it is in now.

You passed that legislation back in—approximately 20 years ago. And I say to you today, we need legislation to develop resolve. I think this is an area—and we believe it is the true answer to why, as Senator Glenn and your colleagues keep saying to me, and beating me over the head as the representative across the street—that today's Army Reserve suffers with the lowest O&M, the lowest percentage of equipment on hand, and far away the lowest percentage of facilities on hand of all the Reserve forces. And all that you can add up to is that the rating, clearly, is going to be at a lower level. But I can say to you that if we would streamline this leadership level, that not only would we help the Army Reserve, but in the process, we believe, we could eliminate active general command structure which is clearly duplication, including a number of Army commands. And so we believe this is one that you very clearly ought to look at.

In the case of the Naval and the Marine Corps Reserve that structure has been working very well. In the case of the Air Force Reserve, there is no question it has been a resounding success. Lastly, on that last item, let me mention two proposals, legislation-wise.

I agree with everything that has been said here. But I do not think anybody really thought that when we moved that 50 call-up ultimately to now 200,000, that we would expect the President of the United States to call up 110 or 120 Naval reservists for that problem that you allude to, and for which we agree with your conclusions wholeheartedly, because it does a disservice to the active, and it does a disservice to the Reserve at the same time. And it is not in the best interest.

So, we would commend to you some thinking that is going on. And I am sure that the Assistant Secretary for Defense Affairs may well point this out, because at his meeting 2 weeks ago that Secretary Cheney had called, this was an item that was discussed. That of giving legislative ability to the Secretary of Defense to have a limited, very, very low profile call-up authority. So that when you needed the 120, it would not have to be a presidential action and be raised to that tremendous level in everything that it means but would be at a much lower level and an appropriate level.

And so we would commend to you that you give that, and whatever that recommendation may or may not be, some very, very serious consideration.

Chairman NUNN. Do you have numbers in mind?

General HULTMAN. I think, and this I was just pulling out of the hat right now, 25,000 we think up to that. But what we are talking about is really producing another threshold, where the decision-maker is the Secretary himself, at a lower threshold and not the President, because we all know the problem when the commander-in-chief is the guy that has got to go down that road, and the political pressures that come with it, et cetera, cetera.

But I also have the faith that the pressure that you and your colleagues and your committee and this Congress put on, I think, by giving a lower threshold to the Secretary for the very limited area that we are now talking about would be possibly an answer to that big, big problem that we all agree on and understand why it is a problem.

Chairman NUNN. General Weber, could you give us your thoughts on that suggestion, either now or later, if you prefer to think about it?

General WEBER. We have discussed that a great deal and we have no counter-suggestion or counter-comments. But we have thought seriously of giving the Joint Chiefs the opportunity to make that decision.

General HULTMAN. That is another good alternative, certainly. I think that is a very good alternative in the process.

Chairman NUNN. Well, I would like to take both of these under advisement. The only problem with the Joint Chiefs—this whole business of civilian control, I think, is something we all have got to keep in mind. I think—but I think your suggestion is very well worth some very serious thought and we will. I would like to get Mr. Duncan to react to it too, when he comes up, speaking individually, of course.

General HULTMAN. The very last item I would like to cover in just a couple of sentences, Mr. Chairman. And this one, I think in light of the total discussion we have had, is very important. And it

is not a request from the standpoint of a gimme or an addition or anything else, but it is a tool, a very important tool to improve Reserve force management. And that deals very clearly with some of the things that you are asking in those four questions and one specifically. And that is "gray area" retirement benefits.

And the reason I raise it is because it is something that does not cost literally anything. In fact, it may be contributing dollars to the funds right now because of the use of them. And if we are going to come down and have less users, certainly, that rationale is one to at least consider.

And the reason I bring it up is this, that upon the completion of 20 or more years of satisfactory Federal service today, the reservist then is in a position where until he is 60 all that period he is not a second-class citizen, really he is a third-class citizen and cannot make use in anyway of any of those benefits. "Gray area" benefits is an important tool first to keep people in. If we are going to have more reservists, we are going to have to do everything we can to keep retention in terms of keeping those men and women active and in the service. Reserve retention is a great strength compared to the Active, where there is much more coming and going; reservists stay longer.

The mid-level managers who I supported in Europe said, the big thing you bring, General, to us—and these are enlisted Active now talking—is you bring us great experience that your non-coms have.

It would also be a good management tool, because a lot of reservists stay on longer as a result of the fact, because they do not have any of those benefits the minute they walk out. And we need a tool, a management tool, to give more encouragement at the right time, for people as they are older to move out of the system, so that—and especially in this time we are talking about when more and more are going to be coming out of the Actives. And we want them in the Reserve, and we want spaces and room there to take as much of that trained manpower as we possibly can.

So I would highly commend to you at the moment some consideration of that, because I think it goes way beyond what it has meant in the past, but will mean something far more significant in the future, and because the cost is literally nothing.

In conclusion, I want to thank you again for the roadmap that you have laid out there for all of us. We deeply appreciate it, and we think that it was long overdue—not from you but from somebody in very high places—so that we could get this show on the road.

Thank you very much.

[The prepared statement of General Hultman follows:]

Statement of

Major General Evan L. Hultman, AUS (Ret)

Executive Director

Reserve Officers Association of the United States

Mr. Chairman and Members of the Committee:

On behalf of the 115,000 Reserve Officers Association members from each of the uniformed services, I appreciate this opportunity to present to this committee the association's views on the role the Reserve forces should play in our overall military posture in the next decade.

The association has provided this committee full statements of its concerns for FY91, and I would commend those statements for your careful consideration. It is not my purpose here to reiterate issues that have already been addressed but to discuss the future use of the Reserve forces.

FUTURE ROLE OF THE RESERVE FORCES

ROA agrees with Chairman Nunn when he identifies "greater utilization of the Reserves" as the third element of the new military strategy he proposes. Additionally, President Bush in his report on National Security Strategy issued in March stated that retaining Reserve Forces" is an alternative we must thoroughly explore, especially as we better understand the amount of warning time we can expect for a major conflict."

The issue today appears to be not whether our nation will place increased reliance on our Reserve forces, but rather how soon and to what degree. ROA has been a strong advocate of a comprehensive study to examine our nation's Total Force of the future. We applaud Congress for requiring such a study by the Secretary of Defense and have provided our perspective on this important issue, including our Total Force Philosophy, to the Total Force Study group and others on several occasions.

ROA has prepared a fact sheet on this subject and has made

copies available to the committee.

The major points of this paper are:

- Our nation's future military force structure must be based upon an updated threat analysis.
- Fiscal pressures require that the military force structure be only large enough to counter the projected threat while accepting a prudent risk.
- Efficiency demands that the military force structure include the most cost effective mix of active duty and Reserve forces.
- The development of a cost effective mix of forces requires recognition of the following facts:
  - Force mix policy, but not necessarily force mix ratio, should be consistent within the Department of Defense.
  - Some missions are most appropriate for active duty forces; some are most appropriate for Reserve forces, but many can be accomplished by either.
  - Reserve force units are less expensive than similar active units, but the cost advantage varies significantly dependent upon the type of unit and the tempo of operations. Significant savings also accrue because many Reservists have received their initial skill training in the active component, and the support costs for Reservists and their dependents are markedly less than for active duty personnel.

ROA is also convinced that Reserve forces must be manned, equipped and funded for adequate training to be effective. We must avoid the mistakes of the past when our nation relied on a "hollow Reserve."

The issue of Reservists availability for recall either by depending on volunteers, as we have in the recent past, or to invoke involuntary recall authority will become more critical as

a greater proportion of our military capability will be in the Guard and Reserve. The Chairman has properly emphasized this fact when he identified Reserve accessibility as an important issue that must be resolved as we depend more heavily on Guard and Reserve Forces.

The 1980's have seen several occasions where Reserve volunteers have been essential to the successful completion of contingency operations, including the recent operation Just Cause in Panama. However, sole dependence on volunteers not only sends the wrong message to active and Reserve forces, it may not be possible in the Total Force of the future when some military capability is only in the Reserve forces.

The history and tradition of the United States includes a strong reliance on forces in reserve. The evolving success of today's Total Force policy, as evidenced in recent contingency combat operations, is the best indicator that increased reliance on the Guard and Reserve should also be the policy of our future.

ADDITIONAL OR EXPANDED MISSIONS FOR RESERVE COMPONENTS

There is no longer any doubt that the Reserve forces built during the decade of the Eighties, thanks in large measure to the support provided by this Committee, are capable of performing their assigned missions. Contingency operations from Lebanon to Libya to Grenada to Panama have all demonstrated the readiness and capability of our modern Selected Reserve, unlike the poorly equipped and trained Reserve forces of the Fifties. Even with the large active duty force of the Eighties, each contingency has required the participation of our Reserve components. In the future, the need for capable, ready Reserve forces will be even greater.

Since many missions can be accomplished by either active or Reserve forces, the development of the most effective mix must recognize more than the cost advantages of greater reliance on

the Reserve components of the Total Force:

- Meaningful training and a sense of being an essential part of the Total Force are critical to productivity and retention in the Reserve components. Experience has proved that placing Reserve units in a "deep freeze" does not work and does not produce a credible mobilization force.
- Reserve force units require adequate resources, including modern equipment and facilities. While Reserve forces are cheaper to maintain than active units, they are not without cost if they are to be viable assets to the Total Force.
- Reserve unit location is, in large part, driven by demographics of the civilian population and, therefore, cannot be determined in the same manner as for active force units.
- Transferring a total capability to the Reserve force will require some increase in response time for contingency or wartime operations.

Taking these factors into consideration, ROA makes the following specific recommendations for new or expanded missions to be performed by the various Reserve components. While we believe that each of the recommended actions is viable, other factors may mitigate against implementing all of them. A well defined plan that provides purpose and direction will be required to achieve the optimum mix of active and Reserve forces during the next decade.

ARMY RESERVE

A review of the roles and missions of the Army's Reserve forces shows that the entire spectrum of structure is represented. The problem lies not so much with the types of missions as with their distribution.

The growth in the Army Reserve has primarily been in Combat Service and Combat Service Support units. For example 48 percent of the USAR is Combat Service Support. This compares to 17 percent in the Army National Guard and 16 p rcent in the active Army. This type unit distribution does not represent the balanced structure recommended by Assistant Secretary of Defense Stephen Duncan and other defense experts. We agree with the Chairman of this committee in his advocacy for placing more of the Army's "tooth" in the Reserve components. We recommend that the expansion of missions in the Army Reserve be primarily Combat Arms ("tooth") oriented units. We strongly recommend that the Army use the opportunity afforded by shifts in the total Army structure to redress this long standing and problematic imbalance.

NAVAL RESERVE

There are several Navy mission areas that the Naval Reserve has already demonstrated an ability to perform in a highly professional manner and that can be expanded in the future. Anti-Submarine Warfare is a prime example. The Naval Reserve can expand its P-3 force, particularly in light of the ongoing reduction in Reserve P-3 augment crews and active force P-3 aircraft. However, the first step required is a restoral of P-3 aircraft to eight per squadron, the same as the active force, instead of the reductions to six proposed by the Navy.

In a similar manner, the Naval Reserve could operate two S-3 squadrons. This action would also provide the two Naval Reserve Carrier Air Wings with a mission capability that has been missing because of a shortage of S-3 aircraft.

The Navy already has an ambitious plan to expand the number of ASW capable frigates in the Naval Reserve. Additions beyond this plan do not appear feasible at this time because of Reserve manning difficulties associated with the obvious requirement to home-port these ships at a limited number of locations. The

"nesting" approach advocated in some quarters needs additional investigation before adoption. For example, today's complex and electronically sophisticated ships may require continuous operation to maintain their capability.

Mine Countermeasures is another mission area where the Naval Reserve has demonstrated ability to perform and does not require routine deployment of forces in peacetime. Only a few years ago the Navy planned to place all its Mine Countermeasures (MCM) ships in the Naval Reserve after each new ship had one year of operations with the active fleet immediately after commissioning. The recent need for a mine countermeasures capability in the Persian Gulf during an extended period has precipitated a change in the Navy's plans to the extent that the first ten MCM ships of the Avenger class are now programmed to remain in the active force and only the final four are planned for the Naval Reserve. Reversing this ratio appears to be feasible.

In a like manner, the Naval Reserve has recently established two airborne Mine Countermeasures squadrons operating MH-53 helicopters. These squadrons still need some of their unique equipment, but doubling the number of Reserve aircraft to the same level as similar active force squadrons is a realistic option.

Today, the Naval Reserve provides almost all of the Navy's airlift capability. This mission area is limited to intra-theatre airlift and does not compete with the mission of the Military Airlift Command. The Navy has significant shortfalls of heavy and intermediate lift cargo/passenger transport aircraft. Expansion of this mission capability in the Naval Reserve is underway and should be continued.

Other mission areas that appear ripe for expansion in the Naval Reserve include VFC (adversary aircraft training) and VAQ (carrier based electronic warfare). The CONUS based Vertical Onboard Delivery/Carrier Onboard Delivery (VOD/COD) is a possible new mission for the Naval Reserve.

The Naval Reserve is also capable of operating an additional carrier Air Wing if such an option is properly resourced, time phased, and the individual squadrons located to take advantage of the demographics of the Naval Reserve population or located at active force locations with special provisions to transport some Reservists to their training sites.

MARINE CORPS RESERVE

The Marine Corps Reserve operates as an integral part of the Marine Corps as one of four Marine Divisions and one of four Marine Air Wings. Although readiness and capability of the Marine Corps Reserve has continued to improve, air wing modernization has not kept pace with other similar Reserve components, therefore this deficiency should be resolved before additional or expanded missions are considered. The option of placing two of four divisions and two of four air wings in the Reserve would require a substantial revision of the Marine Corps peacetime contingency mission and would also require increases in Reserve infrastructure plus a significant change in methods of accessing members of the Marine Corps Reserve since the field of prior service active force trained accessions would be reduced by one-third.

AIR FORCE RESERVE

The opportunity to increase Air Force Reserve combat capability by "robusting" existing units with more aircraft and personnel is an extremely cost effective option. By increasing the fighter units from 18 to 24 assigned aircraft and the C-130 tactical airlift units from 8 to 12 or 16 aircraft, operational capability is dramatically increased with little or no increase in overhead. The Reserve units would then match their active duty counterparts in assigned aircraft with consequent gains in economy of scale. This should be the preferred method of transferring aircraft and mission responsibility to the Air Force

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Reserve. The Air Force Reserve currently has seven fighter units and eleven C-130 units that can be "robusted".

An option similar to "robusting" with aircraft, is to raise the crew ratio in Reserve airlift units. This would allow us to retain expensively trained aircrews in the Total Force and meet the wartime surge requirement at the Reserve's lower training costs.

In view of Secretary Chenney's decision to request 120 C-17 aircraft rather than 240, there is an excellent opportunity to address any resulting airlift shortfall with a lower cost Reserve option. Current projections for the useab. life of the Air Force C-141 fleet are based on the active force flying hour rate of 1200 hours per year. Most of these aircraft were to be replaced by C-17's. However, if the C-141's were placed in the Reserve, they would be flown only 300 hours per year for normal training. The useable life without extensive airframe modifications would then extend beyond the year 2010. The Committee may recall that this rationale was advanced when the C-5A aircraft were transferred to the Air Reserve Forces.

Another area recommended for increased Reserve participation is the KC-135 tanker mission. The Air Force Reserve is capable of accepting more of this tasking through unit conversion. In the past two years, the Congress has provided add-on funds for the "robusting" of existing Air Reserve Force KC-135 units.

Reserve Force Manning and Structure

Our challenge is to structure our Reserve forces to take maximum advantage of their inherent qualities, capabilities and cost effectiveness. By structuring we do not necessarily mean complete changes, for we all know that with proper levels of resources, people, training, and equipment, the Reserve's performance is outstanding. The past decade is certainly proof of that fact.

No doubt a major factor in increasing readiness of our Selected Reserve units is the percent of Full Time Manning (FTM). The benefit of maintaining a viable and flexible defense posture using Reserve forces allows for flexible percentages of Full Time Manning based on deployment schedules. Experience has shown that an average of 14% FTM for ground forces, 21% for Naval Forces and 20% for Air Forces allow units to achieve and maintain optimal readiness levels.

Another important factor in the defense equation is Force Mix. Force Mix within the reserve components as well as between the Active and Reserve components. Assistant Secretary of Defense Steven M. Duncan recently stated, "As a general proposition, active and reserve forces should be balanced. Each should contain an appropriate mix of combat and support elements." We will discuss this issue in service specific sections that follow.

ARMY RESERVE

There is no question that the single most important structure change that must be made for the Army Reserve is to put the Chief, Army Reserve in peacetime command of his component to bring it in compliance with the intent of Congress in PL 90-168 and in line with the Air Force and Naval Reserve.

Study after study by the Congress and the Pentagon have recommended this change as a way to reduce bureaucratic overhead, excessive layering and provide the Army Reserve with a responsive, knowledgeable and accountable champion of its needs. Today's Army Reserve suffers with the lowest O&M, the lowest percentage of equipment on hand (59%), and far and away the lowest percentage of facilities on hand (53%) of all the Reserve Components.

The streamlining we recommend has the potential to eliminate the need for the five Continental Armies, each commanded by an active Lieutenant General with an active Major General and

Brigadier General on his staff. This in itself will save millions of dollars without detracting one iota from Reserve readiness. It will also allow for the creation of a new Army Reserve Command commanded by the Chief, Army Reserve with no additional requirement for manpower or funding.

NAVAL AND MARINE CORPS RESERVE

The Naval Reserve and the Marine Corps Reserve are both well integrated with their active forces. The full-time support personnel systems and organizational structure differ from each other and from the other Reserve components, but they are logical working systems that have served each service well. They operate and train with active force counterparts thereby improving both their capability and creditability. ROA recommends that no substantial changes be made to either the manning philosophy or structure of either the Naval or Marine Corps Reserve.

AIR FORCE RESERVE

Management of the Reserve by the Reserve has been a resounding success in the AFR whether measured by inspections, exercises, or actual contingency operations. The AFR structure is very efficient, with a low overhead to line personnel ratio. Overall, the AFR has only 18 percent full time support manning, including management headquarters, Air Reserve Personnel Center, Recruiting, base support, and unit operations. We recommend no substantive changes in the AFR command and control, full time manning, or structure.

CHANGES IN CURRENT LEGISLATIVE AUTHORITY:

Availability of Reservists: We understand that the Total Force Study group is developing a legislative proposal that would provide the Secretary of Defense limited authority, well below the current 200,000 level mobilization authority given to the

President, to involuntary call to active duty Reserve personnel needed to meet contingencies. We urge this committee to carefully consider any proposal aimed at improving availability of Reserve personnel.

"Grey area" retirement benefit: Upon the completion of 20 or more years of satisfactory federal service and attaining the statutorily required age of 60, members of the Reserve components are eligible to receive retired pay plus the other benefits associated with military retirement. Prior to reaching age 60, members of the retired Reserve receive none of the benefits associated with their military service. Therefore, many Reservists remain in a Ready Reserve status as long as possible. Some of these individuals remain in the Selected Reserve blocking advancement of junior personnel; others remain in the Individual Ready Reserve accruing retirement points.

By providing Space A travel, commissary and exchange privileges, access to MWR facilities, etc., immediately upon retirement, ready Reservists would be provided an incentive to retire earlier, making the force more manageable. ROA does not advocate providing medical benefits until age 60. MWR activities are having financial problems which will further deteriorate with the active force draw-down. By permitting "grey area" retirees the use of MWR facilities the services would be able to increase revenues in a much needed area at no expense to the taxpayer.

ROA recommends that this committee provide "grey area" benefits as a tool to improve Reserve force management.

Thank you for the opportunity to present ROA's views on these important subjects. Your support for the men and women in uniform both active and Reserve is sincerely appreciated. I'll be happy to answer any questions that you might have.

Chairman NUNN. Thank you, General Hultman, for your excellent presentation. General Weber, your testimony and your presentation are very helpful. We are going to stay in touch with you as we go through this very important year.

We have got a very important clean-up hitter here this morning, and I will defer further questions. I would like for you both to give us your position on the suggestion Mr. Tankersley made about having more active forces as we change this concept somewhat and expand it, what he called Total Force plus, having more of a mix of Active forces in there. Do you have any off-the-top thoughts on that?

General WEBER. Mr. Chairman, I was only going to request that, as we review the testimony and the ideas that were surfaced here this morning, that we be afforded an opportunity to respond to those.

Chairman NUNN. Okay. He is braced. He is sitting there braced, ready to receive this.

General HULTMAN. I would think his last caution, Mr. Chairman, is a very critical one, when he put the two caveats in. Because the great strength as he pointed out—and that is why probably both Vern and I, and I do not mean to speak for Vern, he speaks for me a lot; and I speak for him because we speak together with one voice 99.99—but without the capability of being able to progress in the Reserve the same as in the Active. And that is the one point I would point out that we must be very careful.

I think we can accomplish what has been indicated here and the thought by being in a capacity not holding that given key slot, but being advisor with all that background and knowledge and so forth. And I think that is an alternative to accomplish exactly what is being expressed here. But not put it in the critical point in the chain of command of the reservists. Because that is a very critical thing and a very important thing, and not only in the Reserve, but certainly in Active units, that ability not to be blocked, not to be shut out for a chance for advancement.

Chairman NUNN. You are saying in the consultant/advisory capacity of more than——

General HULTMAN. In the training arena, because that has worked, and it has worked very well.

General WEBER. Mr. Chairman, it is obvious to me that in the Army and the Air National Guard we have to have some assistance from the Active force. We have to stay in touch with the doctrine. And we have to stay involved with their school systems. We have to stay with the Army and Air Force programs.

And those ties are very, very important. But I would suggest to the committee that, we have tested some programs that were absolutely outstanding in every respect. And over the period of years they have disintegrated, and they are gone. There was a time that in every battalion in the Army National Guard, we had an officer advisor from the regular Army, and we had one or more senior non-commissioned officer advisors to that battalion. But that system has, as I said, disintegrated. It is gone.

We had another program when Total Force came into being. The Army implemented Total Force under a program known as Steadfast. In the Steadfast organization down at the worker level, we

had a program that we called branch coordinators. And those branch coordinators kept us on track in doctrine. They were expediters in getting instruction teams to come in, get demonstration equipment, and all of those sorts of things. That also disintegrated and is gone.

We have got to have that sort of active Army input, supervision assistance, if you will.

Chairman NUNN. So you agree, basically, both of you, with the concept that Mr. Tankersley expressed. You are talking about a different way of perhaps integrating it?

General WEBER. Yes, sir. But let me give you one other example to throw a new light on this. To me it is absolutely ludicrous to bring an F-16 pilot into one of our F-16 units that is a captain, that has been in the Air Force 3 years, and he has less than 1,000 flying hours, to bring that individual in to provide assistance, direction, command, guidance, whatever to an F-16 pilot that we have that has 4,000 flying hours and has been in the Air Force and the Air National Guard for 14 years.

That, you know, is overkill. And we do not need that. That is when it gets to the meddling business as opposed to providing assistance.

Chairman NUNN. Thank you both for being here. We appreciate it very much. We appreciate your leadership on behalf of our Guard and Reserve forces. Thank you.

Mr. Duncan, we appreciate you being here this morning to give us the benefit of the Department of Defense official views plus any separate views you may want to file that will give us guidance. I have, as you know, quoted several of your statements in some of the presentations I have made recently. And I have followed very closely what you have said in your testimony. And we appreciate very much you being here. I understand you also had to rearrange your schedule today, which we are grateful for.

STATEMENT OF STEPHEN M. DUNCAN, ASSISTANT SECRETARY OF DEFENSE FOR RESERVE AFFAIRS

Mr. DUNCAN. Yes, sir. Thank you very much. I am honored to be here. I must first of all express my delight at what I think is a very healthy debate and a very necessary debate. I am glad to be a part of it.

Mr. Chairman, I did submit for the record, and I would offer for the record, what can only be described even by a lawyer, as a rather comprehensive statement. I tried to anticipate what the committee might be interested in. So if I did not hit it, it was not for a lack of trying.

Chairman NUNN. We appreciate it very much, and your statement will be part of the record.

Mr. DUNCAN. Permit me to introduce my testimony, just briefly, with a couple of comments. And then, frankly, I would like to get right to the questions, so we can get to whatever the committee is interested in.

One of the things that makes this whole debate most interesting—at least one of the things that is most encouraging to me—is that as we address the issue, there is no doubt by anyone who is

involved and who really knows our Reserve forces, that whatever challenges remain before us, we enter the debate after a decade of growth and improvement that has established our Reserve forces as the very best and the most capable Reserve forces in the world. Can we improve? You bet! Are there more things we can do? Certainly.

I was struck by the Chairman's comments in his April 19 speech, where he referred to the comments of Senator Cohen and Senator McCain about proceeding with caution. I certainly subscribe to that. I also subscribe to the views expressed by the CBO earlier this morning that all of the alternatives they discussed perhaps other alternatives should be considered cautiously and only after some study, because what we do may represent significant departures from current practice.

Having said all of that, I have certainly also subscribed to the view that nothing should be considered sacred. Just because we have done something one way since the end of World War II, is hardly the best reason to suggest that that is the way we should continue. I have specifically in mind the way we train our Reserve forces, and what we do with our Reserve forces.

We cannot solve all problems nor can we balance the Federal budget with our Reserve forces. But there are some things that imaginative leadership can do with the Reserve forces. I have heard a lot this morning that I agree with. I do not categorically reject or accept anything I have heard this morning. There are a lot of good ideas. And what I have been urging the Department to do and everyone—the Congress too—is to avoid broad generalizations and to focus the debate so that we can talk about specifics.

And as far as I am concerned, this is the perfect time to hold all good ideas up and to discuss them. Nothing should be off the table. Let us discuss them, hold them up to the light. See if they stand on the merits. And let the best case be made for greater or less use of a Reserve unit in a particular case for a particular mission. We should proceed, in the debate, however, by addressing the issues on a case-by-case, unit-by-unit, mission-by-mission, service-by-service basis.

I might just make one last comment, and then I will be happy to respond to your questions. I hope there is no lingering doubt in this committee or anywhere about the seriousness with which the Department of Defense is treating the Total Force Policy Study. I hope Senator Glenn expressed the view of the full committee when he talked about his conversation recently with Mr. Atwood. Suffice it to say that this effort has received the personal attention of the Secretary, the Deputy Secretary.

The Secretary has appeared at two of our recent meetings. I go in with Chris John and talk to the Deputy Secretary on a regular basis about where we are going and what we are doing. Of course, I hope the committee also understands that what we are doing, as important as it is, is proceeding in parallel with our whole programming and budgeting system.

I have not yet seen—I will see this afternoon for the first time—the Navy and the Air Force POMs. So the POMs have been submitted by the services, and we are going to be engaging in a review of

the POMs as we go through the summer months and the program reviews. We have already laid out a schedule for that.

So, we have two parallel things going on that are definitely related. But they are proceeding in parallel. I might just make one last comment. If there is anything that I would urge on the committee is that we should sharpen the debate. Let us avoid generalities and let us get down to specifics. And with that, Mr. Chairman, I would be happy to respond to your questions.

[The prepared statement of Mr. Duncan follows:]

PREPARED STATEMENT OF

HONORABLE STEPHEN M. DUNCAN

THE ASSISTANT SECRETARY OF DEFENSE

FOR RESERVE AFFAIRS

Mr. Chairman and Members of the Committee:

I'm honored to once again have the opportunity to appear before the Committee to discuss the important responsibilities which our Reserve forces have been asked, and reasonably can be asked to assume in the future. As we address this issue, we can be encouraged by the fact that after a decade of growth and improvement, the Reserve forces of the United States enter the 1990's as the most capable Reserve forces in the world.

Since the early 1970's, the Total Force Policy has been a basic pillar of our military strategy. Our reliance on Reserve forces was specifically noted in the report on the National Security Strategy of the United States which was released by the President in March, 1990:

> The United States has never maintained active forces in peacetime adequate for all the possible contingencies we could face in war. We have instead relied on reserve forces and on a pool of manpower and industrial strength that we could mobilize to deal with emergencies beyond the capabilities of our active units.
>
> For almost two decades, our Total Force policy has placed a significant portion of our total military power in a well-equipped, well-trained, and early-mobilizing Reserve component. Various elements of that policy - the balance between active and reserve forces, the mix of units in the two components, the nature of missions given reserve forces - are likely to be adjusted as we respond to changes in the security environment. Reserve forces are generally less expensive to maintain than their active counterparts so, as we adjust force structures, retaining Reserve units is one alternative for reducing costs while still hedging against uncertainties. It is an alternative we must thoroughly explore, especially as we better understand the amount of warning time we can expect for a major conflict.

The Total Force Policy Study

In recent months, of course, the alternative of placing greater reliance on Reserve forces has been the subject of a major study by the Department of Defense. On February 2, 1990, the Secretary of Defense and the Chairman of the Joint Chiefs of Staff addressed the first meeting of the Total Force Policy Study Group, a group on which I am privileged to serve as Vice Chairman. I can assure you that the Study Group recognizes fully the great importance of the Total Force Policy Study, especially at a time of dramatic geopolitical change and when we are reducing force structure. A thorough examination of the Policy is welcome. Indeed, it is essential if we are to ensure that fundamental decisions concerning how we man the Armed forces are sound.

The work of the Study Group is proceeding well. Since we reported on our progress to the Manpower and Personnel Subcommittee of this Committee only three weeks ago, much additional work has taken place. On April 24 the second Total Force Colloquium was conducted. The Study Group heard the views of our several Commanders-in-Chief on a range of force structure and force mix issues. On April 30 and May 1, the third and fourth colloquia were conducted. A wide range of distinguished current and former policy-makers, military analysts and commentators shared their views with us, including several current and former members of the Congress, former Defense Department officials, academicians, journalists, diplomats, and Adjutants General. Secretary Cheney opened the April 30 colloquium. Several other meetings of the Study Group have also been conducted.

As our work proceeds, I urge the Committee to remember three important points. First, that the work of the Total Force Policy Study Group is proceeding in parallel with, and as part of, the overall budgeting and program efforts of the Department. Second, that each of the Military Services uses and relies upon its Reserve component(s) in different ways. Consequently, it is

very difficult for me to predict today precisely what effect the as yet undetermined future recommendations of the Study Group to the Secretary of Defense may have on the future size and the nature of our Reserve forces. Finally, and despite speculation in the media to the contrary, the Secretary has not made any final decisions on the future mix of Active and Reserve forces.

Understanding the Total Force Policy

Much of the recent public discussion about the Total Force Policy has, in my opinion, has been uninformed, or at least insufficiently focused. Part of the confusion is generated by the use of the term "Reserves." While a basic tenet of the Total Force Policy has always been that National Guard and Reserve units constitute the primary augmentation of the Active component in military conflicts, many Guard and Reserve units (with a mix of part-time and full-time personnel) are fully ready and capable of responding rapidly to a mobilization or other orders to active duty. In this sense they are not forces to be held in "reserve," but rather early deploying or "mobilizable" units more typically found in the traditional Continental European conscription-based Reserve system. Other American Guard and Reserve units are more characteristic of traditional (later deploying) Reserve units.

The Total Force Policy was never intended to make Active, career soldiers and Reserve soldiers fungible items or mirror images of each other. Given the limited training time of part-time citizen-soldiers, sailors, airmen and marines, as well as the constrained budgetary environment in which the Department of Defense will operate in the early 1990s, it is unrealistic to attempt to make every Reserve unit the absolute equal in terms of readiness and capability, of the best Active units. Rather, the objective is to integrate the capabilities and strengths of Active and Reserve units in the most cost-effective manner, i.e., one that provides the most total military capability and flexi-

bility possible within the limitations of the budget.

In order to discuss the Total Force Policy in a meaningful way, it is important that broad generalities be avoided. Too many military analysts argue for large changes in the force mix balance for budgetary reasons alone that are unrelated to any apparent manning philosophy or threat evaluation. Others assert that the Total Force idea has already been carried too far. I am skeptical about suggestions of large broad shifts in force mix across all of the Reserve components as an end in itself. I am equally skeptical, however, about (1) simplistic and incorrect approaches to force mix that imply that (all) Reserve units can never be "as good" as Active units merely because the former train less and, (2) similar approaches to reductions in force structure which result in "equal" reductions to Active and Reserve components with no apparent relationship to strategy or to the need for a specific military capability.

A balanced analysis of the Total Force Policy must start with a focus on particular missions. Some missions, which require a high surge of activity in wartime, but comparatively low activity in peacetime, are obviously ideal for Reservists. Others, such as those which require long periods of forward deployment in peacetime, are unsuitable. Yet others, can be reasonably assigned to either Active or Reserve units, depending upon how soon the missions must be performed after a crisis or conflict develops, the demographic profile of particular geographical areas, the particular characteristics of individual units, and many other factors. Some National Guard or Reserve units can assume even greater wartime missions and peacetime operational responsibilities than they have now. Others, clearly cannot. Certain missions which have previously been assigned to Active forces could be transferred to Reserve units, especially if it can be demonstrated that significant cost savings are available with no loss or for a comparatively small loss in

capability. Other missions should remain with the Active forces.

Making Reservists Ready to Perform

The readiness of the Reserve components to perform their wartime missions continues to improve. Readiness levels are, of course, directly related to training. During FY 1989, National Guard and Reserve officers trained for their wartime missions an average of 61 days. Reserve enlisted personnel trained an average of 42 days. One must see our citizen-soldiers in training to fully appreciate their capabilities. I have admired their skills while flying with them in the F-15, the TAV-8B, and other aircraft. I have felt their enthusiasm and their energy as I watched them conduct amphibious landings on cold Norwegian beaches, cut roads through the mountains of Honduras, and set up field hospitals in exercises on the plains of Germany. I have been amazed at their dedication and their professionalism as I talked with them on the decks of aircraft carriers, in the desert hills of the National Training Center, near the DMZ in Korea, and in armories and Reserve centers all over the nation. By any reasonable standard, the Reserve forces are in the highest state of readiness that has been attained since the Total Force Policy was adopted. Readiness challenges remain, however, in specific areas.

Deficiencies in the Military Occupational Specialty (MOS) of certain Reservists, i.e., in their individual skill qualification and training, have replaced equipment shortages as the most serious readiness deficiency. Last year, I informed you of the persistent readiness challenges in the Army's combat support and combat service support (CS/CSS) forces. Those problems are Army problems, not Reserve problems, but because approximately 70 percent of the Army's nondivisional CS/CSS forces are in the Army Reserve, I have given them a great deal of personal attention. I have been particularly concerned about the readiness of

certain early deploying CS/CSS units.

It is important to remember that in seeking to maintain required standards of readiness, National Guard and Reserve units face problems that are the result of factors which are unique to Guardsmen and Reservists, e.g., limited training time, the geographic dispersion of individual Reservists, and the fact that Americans generally, including Reservists, are mobile and tend to move from place to place. These and many other kinds of readiness challenges, however, are not related to budgetary constraints. They can be corrected by innovative thinking, good leadership and management, and by a frank recognition of the fact that the high quality of our modern Reserve forces permits (1) the introduction of training techniques, and (2) the achievement of readiness levels that were generally not possible only a few years ago. Several encouraging developments are taking place.

Some of the most encouraging work is the result of the Army's Reserve Component Training Action Plan (RC TDAP). The RC TDAP was prepared subsequent to the completion of an intensive study by the Army of the unique training challenges faced by the Army Reserve. The RC TDAP consists of 38 separate initiatives that are being taken by the Army to remedy these challenges. Emphasis is being placed on educating Reserve leaders (officers, warrant officers, and noncommissioned officers). Resident courses at the Army's Training and Doctrine Command are being reconfigured to meet the training time limitations of Reservists. A special Skill Qualification Test for the Reserve soldier is being developed and expanded use is being made of interactive video techniques and regional training centers.

Other encouraging developments include the recent efforts of the Army to eliminate or at least to reduce the turbulence in the CAPSTONE alignment process, i.e., the process by which Reserve units are assigned wartime missions and deployment schedules. For a variety of reasons, these missions and schedules have been

changed far too often in recent years. The resulting turbulence has required the Reserve units involved to engage in continuous retraining with an attendant waste of training time, inefficient use of resources and loss of esprit de corps. The importance of stability in mission assignments is obvious. New unit missions require individual Reservists to obtain new military skills during their limited training time. While some Reservists are engaged in civilian occupations that require the same range of skills that are required to perform their military mission (e.g., aviation and police work), it is possible and desirable to hold most part-time Reservists to the same standard of performance as full-time Active soldiers only if the Reservists are trained on fewer total tasks requiring fewer skills. I have discussed this problem with the senior leadership of the Army on a regular basis and I am pleased to report that it is the focus of considerable management attention. The Forces Command, for instance, is working to minimize the number of changes to the deployment schedules.

In considering the readiness of Reserve forces, it is important to recognize that the readiness of certain Reserve units may need to be kept higher than that which can be justified solely on the basis of strategy or threat evaluation. This need is based on intangible elements such as morale and sense of accomplishment which are directly related to decisions by Reservists to leave or remain in the Reserve forces. The training which is required to maintain certain minimum levels of readiness usually provides those necessary intangibles.

The readiness of Reserve units does, of course, depend to a great extent upon the availability of modern equipment. One thing is certain. When Reserve units are assigned significant missions and responsibilities, they must be given the tools to do the job. It is morally indefensible to assign missions to Reserve units in order to achieve cost savings, and then fail to

give those units the resources that will permit successful performance. Under the Total Force Policy, the Secretary of each Military Department is responsible for providing the necessary programs and budgetary actions that support the equipping which is necessary to ensure that units meet readiness standards and deployment schedules. Since there are insufficient resources to fully fund all programs, clear priorities must be established.

Prudence and common sense suggest that resources can and should be given first to those units, whether they are Active or Reserve units, that will be deployed first to a conflict. Since 1982, the DoD policy of "First to fight, First to equip" has guided the equipment distribution planning of the Military Departments. The policy requires that all units, regardless of component, be resourced for equipment, according to the sequence in which they are required to be in place to perform their wartime mission. It is important to ensure that when called to active duty, all critical Reserve units are instantly ready to fight. It will not matter at all that the amount of warning time for future conflicts goes up by a factor of five, if we take or permit developments which increase the preparation time in which those Reserve units are ready to fight, by a factor of ten!

As we go about the business of reducing force structure, the implications for the readiness condition of all remaining units, Active and Reserve, must be kept in mind. In this regard, we should guard against the trap of assuming that <u>any</u> reduction in military capability or readiness is unacceptable. Certain types of forces must, of course, be kept at the highest state of readiness. So long as we are sensitive to the tangible morale and leadership problems associated with the acceptance of something less than a "high" state of readiness, perhaps we can consider maintaining certain kinds of Active or Reserve units at lower, but acceptable levels. In many cases, a shift of force structure from the Active to the Reserve components would involve no reduction in capability at all. Even when such a reduction would

result, it may be acceptable in view of a changed evaluation of threat, the nature of the specific mission involved, and the significant cost savings that would result.

Other Training Initiatives

A program that has proven to be of extreme value to the readiness and training of all of the Reserve components is the Overseas Deployment Training Program. In 1989, some 3,139 separate Reserve units or cells, including 88,500 Reserve personnel, trained overseas in 96 different countries (see Table 1).

TABLE 1

OVERSEAS TRAINING BY COMPONENT
FY 1989

	Cells/Units	Personnel
Army National Guard	560	22,277
Army Reserve	1,341	18,401
Naval Reserve	408	12,495
Marine Corps Reserve	30	1,867
Air National Guard	252	14,815
Air Force Reserve	519	16,441
TOTAL	3,110	88,296

This program provides realistic mobilization and employment training, an opportunity to train under the operational chain of command, and familiarity with possible areas of wartime employment. It offers an excellent opportunity to improve ties between Reserve component units and their affiliated Active component counterparts and it is a terrific morale builder.

It also provides an opportunity for Reserve personnel to fulfill peacetime mission requirements for theater CINCs while conducting training. For example, the Army's rotation of Reserve heavy equipment maintenance companies to the Equipment Maintenance Center (EMC) in Kaiserslautern, Germany to solve theater

maintenance backlogs during annual training periods has been highly successful. I was updated on this program during a recent trip to Germany. During the test phase in FY 89, six heavy equipment Reserve maintenance companies contributed 38,888 productive man-hours toward the repair of 3,100 items of equipment. This resulted in Theater labor cost avoidance of $787,000. During FY 90, 12 heavy equipment maintenance companies are scheduled for 3-week deployment training periods at the EMC.

The National Guard's Aviation Classification Repair Activity Depot (AVCRAD) in Brussels, Belgium is also a successful and imaginative use of our Reserve forces in Europe. The AVCRAD provides our Active European forces with a forward deployed, pre-mobilization, depot-level aircraft maintenance capability in peacetime manned by Guardsmen engaged in annual training on a 2-3 week rotation basis. I am very impressed with this modern facility, including the quality of people who have been assigned there and the sophisticated equipment which is in-place. It has proven to be very cost-effective.

The Naval Reserve has developed the Shore Intermediate Maintenance Activity (SIMA) program which provides maintenance support for Naval Reserve Force (NRF) ships. The SIMAs perform intermediate as well as organizational level maintenance while providing meaningful assignments ashore to support sea/shore rotations and to retain the skilled petty officers necessary to man the fleet. SIMAs would augment destroyer tenders and repair ships for forward battle damage repair. Selected reservists are trained to back-fill the SIMAs upon mobilization.

Progress also continues on an initiative which started in FY 1986--the Army's Regional Training Sites-Maintenance. These sites provide needed training for Reserve component nondivisional maintenance units. Of the planned 21 sites, 12 have been activated and are proving valuable in overcoming transition and sustainment maintenance training shortfalls. The regional train-

ing site concept is also being extended for medical personnel. Two of seven medical training sites have been completed (Camp Shelby, Mississippi and Ft. Indiantown Gap, Pennsylvania). The Air Force Reserve and Air National Guard are developing similar Regional Training Centers which will provide state-of-the-art simulator training for aircrews. Crews will travel to the appropriate center to accomplish requirements in courses tailored to Air Reserve component crew member availability and experience.

We are also giving considerable attention to the modularization of formal school courses so that they will be better suited to the availability of Reservists. Many of the Services' school requirements for initial skill qualification, retraining or skill enhancement are longer than the training time available to Reservists. Each Service has initiated programs to reconfigure these courses into modules that can be taken in a combination of weekend and annual training periods to accommodate Reservists.

One of my deputies chairs an OSD Training and Training Technology Subcommittee, with membership from each Service, the JCS, each Reserve component, and selected OSD staff agencies. This Subcommittee searches for innovative ways to apply technology to unique Reserve component training challenges. During the past year, the Subcommittee initiated an effort to find ways to contract for the training of Reservists at their home station. We are about to finalize a new DoD Directive entitled, Contracted Civilian Acquired Training (CCAT) for Reserve Components. The purpose of CCAT is to increase the number of mission-qualified individuals in Reserve component units. CCAT is an alternative to formal military school training and must be directly related to specific individual military job requirements and billet assignments. A pilot program is underway with the Florida Army National Guard, with management data being gathered by the Training Performance and Data Center (TPDC) in Orlando, Florida. I believe this effort has considerable potential for providing

quality training at the home station, rather than requiring individual Reservists to leave their families and employers for long periods of schooling.

Research efforts are also being focused on information systems that provide a capability to analyze and correct training deficiencies. These systems are being developed by the Defense Training and Performance Data Center. One such effort is a microcomputer based system that permits us to analyze training requirements from a geographic prospective, an important factor in view of the geographical dispersion of Reservists. Another recent initiative of my office which has received the support of the Chiefs of the Reserve components, is the Reserve Component Nested Model. This is essentially an expansion of the microcomputer system concept to a mainframe system that permits the assessment of training needs and options at all levels of command, from the Reserve unit to the Service Chief.

Limiting Reserve Forces to a Reinforcing Role

As the Armed Forces adjust to current geopolitical and budgetary realities, a view has gained currency in some quarters that Reserve forces should be refocused and limited to a "reinforcing" and "sustaining" role. According to this view, National Guard and Reserve units would serve only to supplement Active forces during protracted contingencies or a general mobilization and subsequent to some initial period of conflict. Presumably, this concept would require Reserve units to be assigned late deployment responsibilities. It assumes the need to place all rapidly deployable "contingency" forces in the Active component. Like other policy proposals, it is neither as simple nor as attractive as it may seem at first blush.

First of all, it is contrary to the current policy of the Department of Defense which is to maintain as small an Active peacetime force as national security policy, military strategy,

and overseas commitments permit. This policy was not accidentally or randomly adopted. It was adopted as a cost-effective way to meet increasing world-wide contingencies. It has been the consistent policy of the DoD to place maximum reliance on National Guard and Reserve units and manpower. We use Active units and manpower to support scheduled overseas deployments or sea duty, training requirements, and to support the rotation base. Above that level, we plan to support military contingencies with Guard and Reserve units and manpower when they can be available and ready within planned deployment schedules on a cost effective basis.

Second, the "reinforcing role" concept ignores the obvious opportunities for the use of the most highly qualified Reserve force in the peacetime history of the Nation. A combination in recent years of modern equipment, the assumption of major wartime missions and peacetime operational responsibilities, challenging/realistic training and other factors has produced a largely unanticipated synergistic effect -- the attraction into the Reserve forces of highly motivated, highly skilled people who are anxious to perform early deploying missions that would have been unthinkable for Reserve forces only a few years ago. The Nation has invested a great deal in the creation of this Reserve force. It should not be unthinkingly dismembered or relegated to a secondary role that will be unattractive to volunteer Reservists who have no obligation to serve at all. It should never be forgotten that with an All Volunteer Force, it is much easier to rebuild Active units with full-time personnel than Reserve units with part-time personnel.

Finally, the "reinforcing role" concept incorrectly assumes that force packages designed for "contingency" missions cannot include Reservists because such inclusion would inevitably result in unacceptable delays for retraining or "mobilization." Unless a particular conflict is considerably larger than what can fairly

be characterized as a "contingency," it will not require "mobilization" in the sense of a massive recall of Reservists. The law (Title 10, U.S. Code, Section 673b) currently permits the President to make a limited, fast, selected recall to active duty of Selected Reserve units or individual mobilization augmentees. Thus, the President may order to active duty anywhere between one and 200,000 members of the Selected Reserve -- without mobilization -- whenever he determines that it is necessary to "augment the [A]ctive forces for any operational mission." The Reservists involved can be retained on active duty for as long as 180 days. Since Selected Reservists are highly trained volunteers to begin with, any assumption that they are not available for rapid deployment is probably suspect.

Developing Neutral Principles for Force Mix Decisions

In making choices about whether to assign certain wartime missions or peacetime operating responsibilities to Active or to Reserve units, it is easy to overlook certain limiting factors, e.g., the fact that the amount of training time required to perform some missions creates unacceptable pressures in their civilian work places for participating Reservists. Enhancing factors can also be insufficiently taken into account. Because of experience gained during their previous full-time service on active duty, for example, many National Guardsmen and Reservists have capabilities that equal or exceed those of Active soldiers who are currently serving on active duty. It is widely recognized, for example, that many Reservists and National Guardsmen are among the best fighter, attack, and transport pilots in the world. Many planners also forget or have never fully understood just how much the quality of the Reserve components has improved in recent years.

On the assumption that the purpose of maintaining military forces is to deter war, and that combat units have greater deter-

rence than support units, some military leaders are of the opinion that when resources are limited, combat units should receive available resources at the expense of support units. Other leaders argue that a more credible deterrence is achieved when potential adversaries recognize that the United States is capable of engaging in conventional combat operations over a period of time, i.e., that we have a strong balance between purely combat forces and the support forces that are necessary to sustain them. Logically, of course, there should be no difference between the types of forces needed to deter conflicts and the forces needed to win them. A potential adversary's perception of his chances of succeeding in a conflict is usually related directly to his ardor to begin it. Moreover, a reasonable question can be asked as to whether we can afford two types of forces, one devoted to deterring war and one to winning it.

I have long been of the view that as a general proposition Active and Reserve forces should be balanced, i.e., that each should contain an appropriate mix of combat and support elements. A corollary of this approach is that neither Active nor Reserve forces should be unique in the absence of a specific military need that can or must be met by uniqueness. The costs of such uniqueness can be unacceptably high. If a Reserve component, for example, is given a mission or equipment not found in the Active component, there may be no pipeline from which the Reserve component may receive personnel trained to perform, or spare parts for the equipment needed for the mission. Certain missions, however, may call for uniqueness. The Army Reserve Civil Affairs personnel who have served in Panama since the commencement of Operation JUST CAUSE, for example, have brought to their nation-building task an array of civilian skills that simply cannot be found or maintained in Active units.

As we reduce force structure, it is important that budget cuts proposed by the Services not have disproportionate and

adverse impacts on National Guard or Reserve units unless there are sound reasons for such impacts. Indeed, even equal cuts of Active and Reserve forces are not per se and inevitably wise. Too many analysts are of the view that since Active and Reserve forces grew together during the decade of the 1980's, they must now suffer force structure reductions at the same rate. Approximately equal force structure reductions of Active and Guard/Reserve forces may be justifiable in certain instances on the ground that when a particular combat unit is reduced, its support units should receive a similar cut, but equal cuts should not be automatic. Such a philosophy suggests an approach to cutting force structure that bears no apparent relationship to a sound strategy or plan and no recognition of the relative cost of Active and Reserve units. It may also exacerbate any existing structure imbalance between combat and support units. In the December 7, 1989 edition of the Washington Post, former Chairman of the Joint Chiefs of Staff, Admiral Bill Crowe, made the point that:

> The usual device for keeping political pressure manageable has been to cut all organizations and weapons procurements equally, while eliminating none of them.
>
> * * *
>
> Forces and services that are cut must be related to more than just budgets. As the size of our active forces goes down, increasing attention should be given to our reserve units and the mobilization system.

Much of the ongoing debate about whether Reserve forces should constitute a relatively higher percentage of the Total Force in the future, relates to the relative cost of assigning a particular mission to a National Guard or Reserve unit rather than to an Active unit. Since Reserve units are not fungible items, costs vary. In some cases, the costs incurred by a Reserve unit in training for and performing a particular mission are as great or almost as great as those incurred by Active units which perform the same type of mission. In other cases, National Guard or Reserve units are much less expensive.

Whether a particular Reserve unit is one third or two thirds as costly as an Active unit, the fact remains that Reserve forces are usually less costly over a period of time than Active forces. In addition to the fact that they train an average of only 39-50 days per year, citizen-soldiers sleep and eat at home and the infrastructure which is required for them is less. Consequently, I believe that for cost reasons alone, a rebuttable presumption should exist that missions should be considered for assignment to the Reserve forces unless there are sound and apparent military reasons for assigning the missions to the Active forces. If the presumption can't be easily rebutted, then a particular mission would seem to be a prime candidate for assignment to the Reserve forces.

We should avoid wholesale shifts of force structure to the Reserve components merely because they are generally less expensive. Any force structure/force-mix decision that is driven solely by budget imperatives should be closely examined. However, the converse is also true. Broad conclusions that Reserve forces provide unacceptable levels of military capability must also be rejected. Force mix decisions must be made on a mission-by-mission, unit-by-unit, case-by-case basis.

As we reduce force structure and develop the appropriate mix of Active and Reserve forces, it is important that we preserve as much of our human capital as is possible. Innovative approaches will be necessary to ensure that as highly trained individuals (especially leaders) leave the Active forces, they are encouraged to continue their service in Reserve units. New ideas such as the "Double Roundout" concept (in which an Active division of ground troops would have two National Guard/Reserve brigades and one Active brigade, instead of the other way around) will also need to be energetically explored.

Despite unreasonably high expectations to the contrary in some quarters, the Total Force Policy Study Group will not be

able to answer all force structure/force mix questions which merit attention. The world geopolitical situation is simply too fluid and dynamic for that. I am very hopeful, however, that the Study Group will be able to develop certain "neutral" principles that may eventually take the form of policy guidance by the Secretary of Defense to the Services. Those principles might include ideas similar to the following and/or other ideas:

1. Like the Active forces, Reserve forces are not immune from structure cuts, but Service force mix proposals should be based on a military rationale other than "equal" cuts of Active and Reserve forces for the sake of equality;

2. The rationale relied upon by the Services in each case and for each mission should be credible and easily understood in order to receive as wide acceptance as possible;

3. Force mix proposals should be regularly made and analyzed on a mission-by-mission, unit-by-unit (capability) basis which is clearly related to the war plans;

4. If significant cost savings can be achieved by a transfer of force structure to a Reserve component (for the performance of a particular mission), a working presumption should be established that the transfer should be made. The presumption can then be rebutted by the demonstration of a sound military reason why the transfer should not be made (e.g., the mission requires a forward deployed unit over a period of time);

5. A similar rebuttable presumption should be made that when an Active or a Reserve unit is withdrawn from the force structure, a certain part of the cost savings will be dedicated to the strengthening of the remaining force structure before the savings are applied to other needs;

6. All units, Active or Reserve, should be resourced (for equipment, training, and other purposes) according to the sequence in which they would be required to perform their wartime or other operational missions; and

7. A rebuttable presumption should be established against force mix decisions that result in placing a particular mission exclusively in a Reserve component. The presumption can be rebutted by the demonstration of a sound military reason why the principle should not apply in a particular case.

The Selected Reserve

It is clear that we must continue to anchor our global military strategy to the fundamentally sound doctrines of deterrence, flexible response, forward defense, security alliances and prudent arms reductions. The challenging issue is the question of what kind of forces are needed to carry out the strategy. In

addressing that issue during the preparation of our FY 1991 budget request, we established certain budgetary priorities, including the retention of (1) versatile, ready, deployable and sustainable conventional forces, and (2) substantial Reserve forces -- including essential logistics, infrastructure, and planning bases.

The end-year strength for the Selected Reserve which has been requested in the President's Budget for FY 1991 is 1,151,600, a modest reduction of 3,400 from FY 1990. The strength at the end of FY 1990 will be 15,600 below FY 1989. The lower strength is due to a FY 1990 reduction of 9,700 by the Army National Guard and a 10,000 reduction in the Army Reserve. An additional decrease of 3,700 in the FY 1991 program is almost entirely attributable to the reduction in the Naval Reserve. By comparison, by the end of FY 1991, the Active force end strength will decline to 2,038,800, some 91,400 less than the FY 1989 level and roughly equal to 1980 end strength. The decrease in the end strength of the overall Selected Reserve represents the first decrease in over a decade, and is in marked contrast to the nearly 35 percent growth of the Selected Reserve between FY 1980 and FY 1989. During that period, Selected Reserve manpower increased by more than 300,000 (from 868,617 to 1,170,560).

The Selected Reserve strength reductions included in the FY 1991 budget for the Reserve components of the Army were based primarily on fiscal considerations (i.e., to achieve compliance with the 1990 Budget Resolution and the partial sequestration) and were not premised on force structure reductions or realignments. Within the overall reduction in Selected Reserve strengths, however, the Army National Guard, in an effort to improve readiness, has increased its full-time Active Guard and Reserve strengths. The Selected Reserve strength request for the Naval Reserve in FY 1991 provides for an increase associated with additional ships being transferred to the Reserve and an increase

in the Reserve medical program, offset by manpower economies in areas that are now considered excess to need. There are only minor changes in strength levels in the Marine Corps Reserve and the Reserve components of the Air Force.

Despite the FY 1990 and FY 1991 reductions, the Selected Reserve will continue to constitute 1.2 million of the 3.2 million member Total Force. The expanded scope, size, and nature of the missions assigned to the Reserve components under the Total Force Policy, require that units of the Selected Reserve, especially early deploying units, be manned at combat-ready levels.

TABLE 2

Selected Reserve Manpower
(End Strength in Thousands)

	Actual FY 1989	Estimated FY 1990	Projected FY 1991
Army National Guard	457.0	447.3	447.3
Army Reserve	319.2	309.2	309.2
Naval Reserve	151.5	153.4	149.7
Marine Corps Reserve	43.6	44.0	43.9
Air National Guard	116.1	116.2	116.3
Air Force Reserve	83.2	84.9	85.2
DoD Total	1,170.6	1,155.0	1,151.6
Coast Guard Reserve	12.0	12.1	12.8

End strength reductions in the Army Reserve (10,044) and the Army National Guard (9,660) since FY 1989 are offset by the combined increase of 4,700 authorizations for the other four Reserve components. The Army Reserve decrease is based on fiscal constraints, while the Army National Guard decrease was required to pay for the needed additional full-time personnel.

In FY 1991 general purpose forces will thus include 30 divisions. The Army will decline to 16 Active divisions (about half with Reserve roundout brigades) and 10 Reserve divisions; the Marine Corps will have three Active divisions/wings and one Reserve wing. Naval aviation will include 13 Active and two Reserve carrier air wings.

Strength adjustments after FY 1991 will be dependent in important part on principles being developed by the Total Force Policy Study Group and the allocation of missions among all of the uniformed components of the Total Force.

The Quality of the Reserve Forces -- Operation JUST CAUSE

The quality of the Reserve forces is, of course, directly relevant to any consideration of the efficacy of the Total Force Policy. The relevant statistical data clearly demonstrate that the quality of our Reserve personnel remains high. In 1989, for example, more than 91.2 percent of the non-prior service enlistees had a high school education or equivalent, and more than 92.9 percent tested in categories I-III on the Armed Forces Qualification Test. The overall improvement in the quality of non-prior service recruits since 1980 has been substantial.

Such data often have limited utility, however, in conveying the true quality and readiness condition of military units and personnel. Intangibles, such as morale, the quality of leadership, unit cohesiveness, etc., can make a unit much better than objective data would suggest. The converse is also true. The best measurement of quality and readiness is actual performance. In the recent and highly visible test of performance in Panama, National Guardsmen and Reservists with a wide range of skills, including many unique skills, performed brilliantly.

The Army Chief of Staff described Operation JUST CAUSE as one of the most complex contingency deployments and employment that U.S. forces have undertaken since World War II. When the operation began on December 20, 1989, personnel from the 180th Tactical Fighter Group (TFG) of the Air National Guard from Toledo, Ohio, were engaged in regularly scheduled training at Howard AFB, Panama, with five of their A-7 aircraft. The 180th flew 76 close air support sorties and expended in excess of 2,700 rounds of ammunition. More significant than the number of rounds

fired was the psychological effect on members of the Panamanian Defense Force (PDF) of the combat aircraft buzzing isolated PDF installations. The visible presence of the aircraft was credited as a major factor in the widespread surrender of PDF forces without a fight. Three days after the operation began, the Air Guard personnel from the 180th were replaced by crews from the 114th TFG in Sioux Falls, South Dakota, who were flown to Panama on C-141 aircraft piloted by the Air National Guard in Mississippi.

During the very early stages of the operation, other Air National Guard crews flew missions with C-130 aircraft airlifting 553 tons of cargo and 3,107 people, including the very first aeromedical evacuation flight to the U.S. The 172d Military Air Group (MAG) of the Air National Guard flew C-141 missions from its home station in Jackson, Mississippi, transporting 1,733 people and 437 tons of cargo to Panama. The 105th MAG of the Air National Guard (New York) flew 49 C-5 Galaxy missions airlifting 637 personnel and more than 1,000 tons of cargo. Hundreds of additional missions were flown in the later stages of the conflict. Other Air National Guard personnel provided various kinds of support to Active Air Force personnel who were engaged in the operation.

Similar missions were flown by Air Force Reserve personnel. Two AC-130 gunships from the 919th Special Operations Group of the Air Force Reserve were a major contributor to the success of the operation, flying 38 combat sorties, hitting key facilities and providing cover for Army troops held hostage in the Marriott Hotel in Panama City. Associate KC-10 Tanker Units flew 13 missions to refuel aircraft and off loaded 1,169,000 pounds of fuel. Six separate C-5 and C-141 Associate Airlift Units from five states flew 71 missions (852 flying hours), airlifting 3,927 personnel and 1,921 tons of cargo as part of their participation in the initial assault air drop and during follow on airland

missions.

In addition to the airlift and gunship crew support, Air Force Reservists provided significant support in aerial refueling, aeromedical evacuation, aerial port, intelligence and base operating support. Reserve crews flew 10 aeromedical evacuation missions. Air Force Reserve aeromed units volunteered 1,000 man-days of effort and some 208 nurses and technicians supported 225 litter patients and 42 ambulatory patients. They staffed medical facilities at Kelly AFB, Texas and the nearby Wilford Hall USAF Medical Center.

When I visited our Reserve forces in Panama in January, I was informed that at certain times during the intense early hours of the assault, aircraft were landing at Howard AB every 15 seconds, on a very crowded airfield, in blackout conditions (because of the danger of mortar rounds from nearby hills). The fact that not a single accident took place despite these conditions and the confusion that inevitably surrounds combat operations, is vivid testimony to the professionalism of the Active Air Force, Air National Guard and Air Force Reserve crews which were involved.

Other National Guardsmen and Reservists were also actively involved in the early stages of the conflict. When the attack began, the 1138th Military Police Company of the Army National Guard (Missouri) was also conducting annual training in Panama. That unit was the only military police unit in Panama specially trained to process POWs and civilian detainees. At 1600 hours of the first day, the unit had constructed a holding facility and was receiving prisoners. Although the unit was scheduled to complete its training and return home on December 21, over one half of its members volunteered to remain in Panama over the holiday period for an additional two weeks.

The augmentation of the Active force staffs during the crisis was another task that National Guardsmen and Reservists

performed well. At the request of the U. S. Southern Command (SOUTHCOM), some 61 USAR Individual Mobilization Augmentees (IMAs) volunteered to provide staff and related support to both SOUTHCOM and several of its subordinate commands during the around-the-clock intense operations. The 366th Army Reserve Public Affairs Detachment provided in-depth media coverage for approximately 13 days.

One of the more remarkable stories about Operation JUST CAUSE was the work of the Army Reserve Civil Affairs personnel who very ably demonstrated the often unique skills of the "Citizen-Soldier." Soon after the operation began, warning orders were issued to specific Army Reserve Civil Affairs Units. Army Reservists by the hundreds immediately began calling to volunteer to go to Panama. Shortly after the operation commenced, SOUTHCOM requested that Reservists with specific skills be deployed to Panama to conduct joint civil-military operations and specifically to assist the new Government of Panama in the restoration of essential governmental services, in the assessment of the longer term needs of the country, and in the care of thousands of displaced Panamanian citizens.

The first contingent of Army Reserve Civil Affairs specialists arrived in Panama the day after Christmas, six days after the conflict began. By January 1, a total of 222 Army Reserve Civil Affairs personnel had arrived. Specialists immediately began advising the ministers of the new government on the rebuilding of the governmental infrastructure. Immediate steps were taken to assist the new government in its efforts to build the new Public Forces of Panama (FPP) from the ashes of the PDF, and to change the entire culture and attitude of the former members of the PDF so that the FPP will become a police force dedicated to the protection of the citizens of Panama, rather than a military force which intimidates and abuses. Army Reservists who serve as judges, prosecutors and precinct policemen in

their private lives quickly designed a course of instruction for all members of the new FPP. The course included such subjects as "Police Ethics" and "Human Rights," as well as such standard subjects as chain-of-custody procedures for evidence, arrest techniques, etc. The prison next to the Commandancia (the former Headquarters Building of General Manuel Noriega and the PDF) which had been emptied and ransacked after the attack began, was soon functioning again as a result of the advice and active assistance of a Spanish speaking Army Reserve captain who serves in private life as a U.S. Marshal.

A wide variety of other nation-building tasks were also performed by Army Reservists. A clean, organized Refugee Camp for almost 3,000 homeless and displaced persons was immediately established. Agriculture and medical specialists promptly commenced highly visible efforts to rebuild the distribution systems for food and medical supplies (by January 20, 1990, a Civil Affairs unit in Colon had already delivered 60 tons of emergency food supplies to outlying districts cut off by the fighting). Housing, real estate and construction specialists began detailed assessments of the short and long-term housing needs of the citizens of Panama City, Colon, and other areas. Airport management specialists assisted civil airport authorities in the return to normal civil aviation operations. Educational specialists worked to reopen the schools of Panama and to evaluate the long-term educational needs of the country. Public works specialists repaired vehicles and equipment so that the public transportation system could operate. Engineers cleared the streets and attacked sanitation problems. In Colon, a Sergeant in an Army Reserve Civil Affairs unit (who works as a civil engineer in his civilian job) designed a screening device for the intake valves of that city's drainage system, which had been inoperative for several months due to clogged intake valves and fouled turbines. His device worked superbly and will probably save the city from

serious flooding during the next rainy season. It has already stopped the flow of raw sewage into the surrounding river system.

During my visit to Panama, I asked General Max Thurman, the Commander-in-Chief of SOUTHCOM, how our Reserve forces were performing. He replied: "The skills that the Reserves bring [to SOUTHCOM] are a godsend." The role which National Guardsmen and Reservists played in Operation JUST CAUSE should not be overstated, but their many contributions were clearly important to the success of the operation. The prompt integration of Active, National Guard and Reserve forces into a formidable fighting force is eloquent testimony to the capabilities of our Reserve forces generally, to the often unique skills and experience they bring to the Total Force and to the progress which has been made in recent years in implementing the DoD Total Force Policy.

Full-Time Support Personnel

The full-time support program continues to be important to the readiness of the Reserve components. The categories of personnel who provide full-time support are Active Guard and Reserve, Military Technicians, Active component members, and civil service personnel. They organize, train, recruit, and administer the Reserve component forces, as well as maintain equipment and perform other logistical activities. About 12 percent of the total Selected Reserve was serving in Active Guard and Reserve or Military Technician status at the end of FY 80. The total strength for full-time support personnel at end of FY 89 was approximately 15 percent of the Selected Reserve, with over 78 percent of those full-time personnel working in direct support of part-time unit activities.

The availability of sufficient full-time support has long been associated with the ability to achieve and maintain Reserve component readiness. Since 1985, the Reserve component full-time support force has grown by over 20,000 and there appears to be a significant correlation between this growth and the improved

readiness of particular National Guard and Reserve units. Since the training time of the part-time Reserve members is limited, sufficient numbers of qualified full-time personnel are essential to ensure that training time is used effectively and that the sophisticated equipment in today's Reserve units is properly maintained.

Reserve unit full-time support requirements must be developed on a mission-by-mission and case-by-case basis with the specific unit mission in mind. The full-time support personnel mix must be cost effective, achievable, and appropriate for mission requirements. The management structure and guidance must be continually reviewed to ensure most cost effective full-time support force is maintained.

The goal of the Department of Defense is to maintain an adequate level of full-time support commensurate with readiness requirements and program affordability. As resources diminish, so must our management of this critical program intensify. At this time, most full-time support program changes are related to new force structure or new missions. While the resources requested do not completely close the gap with total requirements, they do represent a prudent level of full-time support consistent with current Reserve unit missions and responsibilities.

We have just completed an analysis of the Department's full-time support program as directed by this Committee. The report on the analysis examines in detail the structure, history, and management of the full-time support programs of the National Guard and Reserve components. The report introduces a new display format for full-time support manpower which will be included in the detailed National Guard and Reserve budget justification books which accompany the President's Budget. It also describes the DoD methods for assigning priorities to full-time support needs.

The Department is developing more detailed guidance for the

Services on requirement determinations and full-time support force mix. A study is currently underway of the analytical approaches used by the Services to make full-time support resourcing decisions. The results of this review will help the DoD improve its guidance to the Services. I consider this effort very important to future program management, particularly in these times of force structure scrutiny at all levels.

The Individual Ready Reserve

The Individual Ready Reserve (IRR) is the principal source of trained individuals to fill wartime manpower shortages in Active and Reserve units. The IRR would be used to fill shortages in existing units, as well as to replace combat casualties during the early period of a full mobilization.

In Fiscal Year 1987, my office initiated a requirement for eligible IRR personnel to report at least one day during the year to permit evaluation of skill proficiency, upgrade of personnel records, and to confirm mobilization availability. The screening program has now been enhanced by a recent change to Title 10 U.S. Code to establish a new form of duty called "muster duty," designed for certifying IRR mobilization availability. The change also sets up a new pay structure for this type of duty which hopefully will be more expedient and cheaper for the Department, and more equitable for the individual IRR member.

To remind each member of the IRR of his or her legal obligation to maintain mobilization availability, the IRR reporting requirement (muster screening program) also provides other benefits. The Department is able to maintain current address data to ensure expeditious mobilization. Muster also provides encouragement for IRR members to upgrade their status and join a Selected Reserve unit. Over 10,000 IRR members per year indicate during the screening a desire to affiliate with a local unit.

As in previous years, the FY 1989 screening highlighted the

problems associated with an Army IRR retention policy established following Congressional direction in the 1979 Defense Authorization Act. The Act directed the Secretary of the Army to retain many individuals in the IRR who normally would have been discharged. The intent was to help overcome serious Army IRR manpower shortages that existed then. In conjunction with the Department of the Army, we are now reexamining that policy.

A Potential Brake on the Expanded Use of Reserve Forces

Employment pressures on our "citizen" - soldiers, sailors, marines and airmen continue. No other nation in the world requires as much training time for its Reservists as does ours. In my discussions with National Guard and Reserve unit commanders, it is not at all uncommon for me to learn that a particular commander devoted in excess of 100 days to his unit the previous year. The world of the "week-end warrior" passed into history some time ago and volunteer Reserve leaders almost universally contribute much more than the traditional 39 days per year to their units.

Our success in attracting high quality people to the Reserve components has sometimes presented a new problem. The same qualities that make them successful Reservists, also give them the potential to assume increasing responsibilities in their civilian work places. These new responsibilities make it more difficult for the leaders to devote the time that is required to make and keep a Reserve unit ready. Our best judgment is that approximately one-third of the National Guardsmen and Reservists who leave the Selected Reserve before completing their first five years of Reserve service will likely do so, in part, because of employment pressures.

To the extent that Guardsmen and Reservists assume a greater share of the national defense mission in the future, the periods of absence from their civilian work place will likely increase

and create additional employment pressures. The problem may become exacerbated by the belief of otherwise supportive employers that the "threat" has disappeared. The substantial costs of training replacements and the impact on readiness which is caused by personnel turnover make it essential that these employment pressures be minimized. The Department of Defense has several programs underway to address these challenges, but it is important that they not be forgotten as we consider the possible future uses of the Reserve forces.

The Reserve Officer Personnel Management Act

The Department of Defense submitted a major legislative proposal to revise the laws governing Reserve officer appointments, promotions, separations, and transfers to the Retired Reserve in each of the 99th, 100th, and 101st Congresses. The Reserve Officer Personnel Management Act (ROPMA) proposal has been developed to closely parallel the provisions of the Defense Officer Personnel Management Act (DOPMA) which was enacted in 1980 to improve the management of Active force officers. A hearing on ROPMA was held by the Subcommittee on Military Personnel and Compensation of the House Armed Services Committee near the end of the 100th Congress. The legislation was revised in technical detail and introduced in the 101st Congress as H.R. 2200. This version is still awaiting consideration. This important legislative proposal remains a key concern of the Department and I hope that hearings will resume in the near future.

The legislation would provide a uniform and improved officer personnel management system for Reserve officers. It would help ensure equitable, cost-effective management of Reserve officers and improved contribution to the readiness of the Reserve forces. The provisions of ROPMA are particularly important with respect to improved and more uniform management for officers serving in the health professions. It would stimulate long-range planning

which is necessary to provide Reserve officers with attractive and meaningful careers.

It is self-evident that we need to attract and retain officers in the Reserve of the proper age and grade, who possess the skills and experience needed by today's Reserve components. ROPMA is the means to that end since it would provide the personnel management flexibility to react to changing roles, missions, and force structure. I strongly urge you to act on this important management proposal as quickly as possible.

Conclusion

In his own testimony to Congress earlier this year, Secretary Cheney referred to the "historic transformation of the global security environment that has occurred in recent months." This transformation presents major challenges to the planning of the force structure and (Active/Reserve) force mix which are necessary for the implementation of our national military strategy, including the preparation for future conflicts which are increasingly difficult to predict.

The Department of Defense is, however, energetically addressing these challenges bearing in mind the President's directive to thoroughly explore the alternative of hedging against uncertainties, by placing greater relative reliance on our Reserve forces. I am confident that with the continued support of the Congress, our future use of these forces will contribute substantially to the continuous goal of providing a cost-effective military capability that fully protects our nation's security interests.

Chairman NUNN. Thank you very much, Mr. Duncan.

On page 20 of your statement you state: "For cost reasons alone a rebuttable presumption should exist that missions should be considered for assignment to the Reserve forces, unless there are sound military reasons for assigning the missions to the Active forces. If the presumption cannot be easily rebutted, then a particular mission would seem to be a prime candidate for assignment to the Reserve forces."

You may have already gotten this question partially answered, but do you think the Department of Defense is applying this principle in their POMs of the military services now?

Mr. DUNCAN. Oh, I do not think they are, to be very candid about that. What I am suggesting there assumes that we can all agree on the same costing methodology. One of the important things the Study Group is working on is the development of a uniform costing methodology within each of the services. I will tell you that some of the services have different costing approaches within the same service on how they cost Guard and Reserve and Active units. One of the things I am hoping very much we can accomplish is a uniformly accepted costing methodology.

But if you start with the assumption that you have unit A and unit B, using the same costing methodology, one in the Active, one in the Reserves, and they both can perform the mission, then, to me—it is only common sense and this is a personal view—to have that rebuttable presumption, recognizing that there may be very valid military reasons which rebut the presumption, such as forward deployment, quick response, a unique skill, whatever that may be necessary to perform a particular mission. If that is the case, that skill or requirement can rebut the presumption. But why in the world would you want to spend unnecessary dollars? In any case, it is a constant measuring of the required military capability, a value judgment—on which reasonable people can disagree — versus the cost savings.

In each case, we need to go through mission by mission and weigh the required military capability with the cost savings that might be achieved by having the Guard or the Reserve perform the mission.

Chairman NUNN. I think you also probably have already covered this in your oral statement, but you heard three or four different suggestions from the CBO this morning, the Congressional Budget Office. Are you willing to take a look, a careful look at those?

Mr. DUNCAN. Oh, sure. We do not exclude—at least I do not—anybody's good ideas. Absolutely. They have to compete against all other good ideas.

Chairman NUNN. Right. Current Army plans indicate a cut of three Active and two Reserve component divisions by 1994, a reduction in manpower strength of 115,000 Active and 111,600 Reserve.

Do you think the Army at this preliminary stage has applied that rebuttable presumption principle to the Army in drawing up its force structure plans?

Mr. DUNCAN. You are talking about the POM that was just submitted by the Army?

Chairman NUNN. Right.

Mr. DUNCAN. At this point, as the Chairman probably knows, we have already scheduled into June program reviews with the Secretary and the Deputy Secretary. So I would like to make my specific comments there. But as a practical matter, I have not hidden my beliefs that while the equal cuts concept are not automatically bad, they are inherently suspect in my view, until I see the rationale that lies behind the application of such a concept.

It goes back to the presumption of, how can we perform a mission for the least cost. If you accept the costing methodology, then why would you want to come down at a similar rate with Guard and Reserve on the one hand and Active forces on the other. So those are the kind of questions I will be asking during the POM review.

Chairman NUNN. And I assume you will be injecting your strong view on this subject in this overall review?

Mr. DUNCAN. I do not have a reputation for being bashful sir.

Chairman NUNN. I guess my question is that we have got this Total Force policy study going on now. Do you have a date when you think it is going to be completed and ready for submission?

Mr. DUNCAN. No, sir. I mean, we know the statutory requirement. And as the Chairman is aware, we are working very hard. I will tell you, I am spending most of my time on this. Aside from the colloquia, and the regular meetings of the Total Force Policy study group, Chris Jehn and I, behind the scenes, are working intensely on this thing to help it play in the POM review process that the Secretary and the Deputy will be engaged in, even with the POMs that have now just been submitted.

We are hoping to make recommendations that they can apply to the POMs that the services have just recently submitted even through the summer months. I will also tell you, every time I say, come on, we have got to go faster, I am reminded of General Eisenhower's comments that, let us not be in a hurry to make mistakes.

My personal view is that as important as speed is here, it is much more important to do it right. We are anxious to hear all of the viewpoints to make sure that we give the Secretary the best possible recommendations, as opposed to the fastest recommendations.

Chairman NUNN. I think it is certainly important to do it right. I guess my real question is how does this plug into the POM process. Obviously it is not in there now. In terms of what you are going to look at this afternoon, I think you already made it pretty clear that you do not think that they have plugged in either your rebuttable presumption philosophy or the total force study that is going on now. So, the POMs are proceeding down one trail and the total force is proceeding down the other, and I guess my question is when are these two going to be joined and at what level?

Mr. DUNCAN. I guess my view of the Total Force Policy study is that it will develop management policy guidance principles that the Secretary of Defense will hopefully give to the services, not just for the immediate POMs, but for planning from now on as we prepare budgets and programs for the out years.

I think that a very important objective of the work is to give secretarial guidance at the beginning of the process as opposed to just reviewing the service submission or primarily reviewing them at the tail end of the process.

Chairman NUNN. But there has not been that Secretarial guidance yet. That is my point.

Mr. DUNCAN. Well, there has been the defense planning guidance, and I do not accept that entirely, Mr. Chairman. There has been the defense planning guidance, there has been the Secretary's

fiscal guidance. There has also been the Secretary's guidance with respect to forward deployed forces and so forth.

Obviously he has not had the benefit, hopefully the benefit, of the work of our study group because we are only now engaged in it. The way I see it relating to the current POMs is, to the extent that we can develop these recommendations soon enough to affect the POMs and to the extent the Secretary accepts one or more or all of our recommendations, he can then apply them to his evaluation of the POMs that have been submitted by the services. That is why we are racing so hard to give him the benefit of our judgment.

For sure, though, I see this as a longer term process where our recommendations can be applied to future planning. But, we are doing our best to make it apply to the current budgets.

Chairman NUNN. Well, I know you have got a time problem, and I do not suggest you rush it to the detriment of quality work. I know you are not going to do that. I do think where you can pull certain principles out without finishing everything and have those apply to the current POMs it will be helpful.

The problem we are going to have is, there are going to be a lot of decisions made this year, even forgetting the POMs. We have not gotten the 5-year plan yet, but we are going to be making decisions up here on Capitol Hill that are going to have tremendous effect on the POMs, the Total Force, all of that, and they are going to make it very difficult to implement some of these things if we are not all heading in the same direction.

Mr. DUNCAN. Yes, sir.

Chairman NUNN. It does not have to be that we have all the details worked out.

I was giving a speech one time about the importance of long-range planning, and this fellow in this audience after hearing me for about 20 minutes on a particular subject—I think it was where some economic development was going to take place—he concluded by saying everything you have said has been very interesting, but he said, "Son, we are going to be digging while you are still planning." You know, I had to think about that a little bit, but I have not forgotten it.

And I think the planning is enormously important. But we are going to have to start making critical decisions up here without the benefit of a 5-year plan, without the benefit of the total force posture, a study without the benefit of the POMs, and a lot of these decisions we are going to have to make. On a lot of them I am probably not going to agree with because we are going to have so much fiscal pressure are going to have a tremendous effect on this long range.

So the only thing I am saying is where you can pull things out that relate to this total force posture that you can get sign-off on by the Secretary of Defense, I suggest you try to get some principals involved quickly.

And what we have had in the last 6 months, we have had an intelligence assessment that is pretty well up-to-date by now. We have had DIA and CIA, and they have done their work, and we have had that kind of threat assessment, but the threat assessment was not plugged into the 1991 budget. So, we have got a 1991 budget over here that is a fiscal tinkering that has no real relation-

ship to the changed threat in the fundamental sense, only to the extent of superficially if the threat goes down, you can reduce some of the budget. But budget cuts were going to happen anyway.

So, it is a big building over there, and there are a lot of different parts of it. Big buildings over here, too, and we have got a lot of different views over here. Somehow, though, we have got to strive to get these things more in sync. When you get threat assessments that are not plugged into the 1991 budget, when you get the Congress making decisions on the 1991 budget that are going to have a profound 5-year effect without the benefit of the Defense Department's 5-year thinking, when you get a POM review process that does not have the total force plugged in.

I know how hard it is to get them in sync. The only thing I suggest to you is, you do your best to try to get some of this Total Force thinking into this POM process before these decisions are actually made.

Mr. DUNCAN. I assure the Chair we will do our best, and we are.

Chairman NUNN. Senator Warner.

Senator WARNER. Mr. Chairman, those concluding remarks by you were worth the whole effort of this hearing. We say in the Senate more out of courtesy than reality. Often I associate myself with those remarks.

Chairman NUNN. I thought you always really meant it when you said it. [Laughter.]

Senator WARNER. As my old country preacher says, I have done laid the gospel on you, man. Now, do as I say. He has laid the gospel. Because you know, Mr. Secretary, all of us in varying degrees have had experience with the Department of Defense in different ways, and the years that I have been here I have watched this cycle now 12 years, and I call it the gold watch treatment that the Guard and Reserve have been given, and I do not see that as any disrespect to anyone.

But all too often Secretaries of Defense, Democrat and Republican alike, have not done much in the budget process because they know it comes to the Hill and certain individuals who have had a lifetime of experience on the Hill have always picked up those requests, amplified them several times over, and the gold watch is sent on back.

Now, I think we have got to put an end to the gold watch treatment, put the Guard and Reserve on equal footing in every respect, recognize that there are some senior Members of this Congress who will look after it, but now the middle Members and the junior Members are all joining in. And the important thing is, we want to do it right.

I have sat here and chuckled, and I think the Chairman will bear with me, in conferences in years past when we would wrap up a conference, it was always the Guard and Reserve package that was added on at the end. We knew it was coming. We always saved a little money over here on the side to offset it and never really knew what was in the package. And sometimes the damndest things were in the package. Whether it had any relevance to the mission, the fighting or the equipment, it was immaterial. I mean, hell, trucks, airplanes. I do not know.

I will never forget a classic fight between Senator Goldwater and Senator Thurmond. Goldwater or was it Thurmond wanted to go back and start the P–51 line all over again.

Chairman NUNN. It was not Goldwater. I know that. [Laughter.]

Senator WARNER. Anyway, it was a colorful moment, but we do not have time for that color any more. We are down to business. And two things have really changed and changed dramatically here. Of course, the threat, you understand that. You have been through it.

But we are going to fight and deter and defend our country in ways quite different than I grew up on as a product of World War II and Korea. It is the smart weapons. It is the quick moving forces. And we have got to reshape not only the Active, but the Reserve and Guard to fit that.

And the second is the fiscal. The Chairman and I were privileged to be with the President yesterday at the White House following budget meetings and things like that as they relate to defense. This thing has changed in the last 60 days dramatically from figures that we were dealing with, a $35 billion shortfall. I do not know where it is today. $100 billion somebody is talking?

Therefore, we do not have time to sit down and make the long-range plans. We have got to authorize and appropriate the funds on an annual cycle, and we are going to make these decisions. So, I would like to lead off with one or two questions, having taken up everybody's time now with my own speech.

Chairman NUNN. I would like to identify myself with your remarks, Senator Warner. [Laughter.]

Senator WARNER. I thank you. But we cannot take up all the time this morning, but we need some amplification on the relative costs of the Guard and Reserve versus Active.

Now, that is not a backhanded slap to those who in the All-Volunteer Force who have given their careers as Active professionals. But we have got to look at those cost figures.

Could you generalize? As we look at our budget can we expect that we can save money by putting greater emphasis on the Guard and Reserve? I think so.

Mr. DUNCAN. I believe you can, but there is some misunderstanding about that. For example, they do not all cost the same. We know that ground units in the Army and Marine Corps, for example, can cost as little as 25–35 percent as much as an Active ground unit. You look at aviation units, maybe shipboard units. They are going to be closer to 55 to 70 percent as costly. But it varies, and it depends entirely upon the specific unit, the specific service, and the specific mission.

But, as a general proposition, Reserve forces are less expensive, the only caveat being that we have to be careful to make sure that we fairly take into account the infrastructure costs for the Reserve forces. In other words, we cannot just attribute all the infrastructure to the Active forces and say that Reserves are always cheaper. I think you can fairly say that in most cases, most Reserve units for most missions are going to be less expensive. It is just a question of how much less expensive in each individual case and how we can match up the cost savings against the capability that is absolutely required to perform particular missions.

Senator WARNER. I would suggest that be an integral part of this report, and I am sure it is already.

Mr. DUNCAN. Yes, it is. We have already had several technical conferences on costing methodology. I just went to one a couple of days ago.

Senator WARNER. Mr. Secretary, by the way, we thank you for coming today. We recognize it was an abrupt readjustment of your plans, but it is very important as the Chairman said that we at least have this threshold learning experience with you and the other witnesses today so that we can make some of these decisions we are going to have to make in a matter of weeks.

And I am concerned about the personnel issue today in the Active force. They are going through a great deal of turbulence, hearing all kinds of reports, various figures as to cuts, end strength, coming back home, and so forth. And, like good people, they will take it up to a point. At some point we may crack this All-Volunteer Force and lose the precedent and that would be a tragedy because I do not know that we could ever reconstitute it again and put together a force as professionally capable, as intelligent as the Active we have today.

My question to you, should we begin to look at some legislation maybe as early as this cycle to provide for some priority for men and women who are involuntarily separated in the coming months and years as we face these reductions to allow them some priority of integration into Guard and Reserve forces?

Mr. DUNCAN. We are very concerned about the perception of both our reservists and our Active folks as to these reductions. You are absolutely right. We engage in a lot of rhetoric about the quality of our forces. They are at least as good as we say they are. I mean, they really are that good. The Secretary is personally concerned about how we handle this and has expressed his concern very forcefully.

My colleague Chris Jehn at FM&P is looking at some of the transition issues, and my staff is working very closely with him, as am I, to help him identify them. Can there be automatic positions in the Guard and Reserve? Possibly, but I guess my overall approach to that is while I want to do everything we can to protect those people who are coming off active duty, I also do not want to leave the impression that there is an automatic slot for them there if, in fact, we may have very high quality in a particular position already in the Guard and Reserve.

What we have to do from a managerial standpoint is to compete the quality so that we end up with the best, highest quality Total Force. I do not have a perfect answer on how to do that yet, but there are some things we can do. I mean, I call it the "human capital" issue. We have an enormous human capital in the people who we have spent a good deal of this Nation's resources training. Those are the active duty people, and it is very important that we not waste that human capital; that we find ways to employ it and to the extent we can do so by integrating it with the Reserve forces, I am perfectly open.

Senator WARNER. My specific question to you—and you may answer it later somehow, and if necessary we will write you a letter—do you need any legislation now to implement some type of

assistance as these people are involuntarily separated to provide a basis of encouragement for them to go into the Guard and Reserve?

Mr. DUNCAN. I am not convinced that we need any now, but believe me, we are following it, and I will not hesitate to tell you as promptly as we reach that conclusion, and I will carry the message back to Chris Jehn, and I will continue to stay in touch with you.

Senator WARNER. I would like to turn to the State Adjutants General. The command and control of Guard units within the States, this is a matter that is of some concern to me. We have in the constant evolution of the changing political scene in our country, people are elected to governor, and some of them have had absolutely no background associated with military. You know, they have missed the various periods in their history when they could have served or were too young or whatever the case may be. I do not need to get into that. But there are persons ascending to the office of governor who have not had experience with the military, do not understand command and control, do not really understand roles and missions and so forth. And yet they have, and properly so under our Constitution, a great deal of authority with respect to the utilization of those Guard units as it relates to State functions and requirements.

I am just going to make a statement. You need not, unless you want to, comment on it. But I would hope in your report you would address that subject because often it is the State Adjutant General who more than likely has had the experience that at 5 o'clock in the morning there is a terrible flood or there is some problem with law enforcement, and suddenly Guard units have got to be called out, and the chief executive, the governor has to make a decision.

And I would like to have you look at somehow working out this command and control chain so that State Adjutant General is in it. I do not know how we would do this, because there are 50 separate States and 50 separate bodies of State law. But whether we should certainly not impose a Federal law on the States, but somehow we address this—that a governor who has not had the opportunity to understand the military, the life of a soldier, sailor, airman, marine or whatever the case may be and promptly exercise his authority and hopefully integrate in that decision chain the State Adjutant General and his staff, who most likely have had the experience, and it is there.

Do you understand?

Mr. DUNCAN. I understand. I do not have any answer this morning. I will tell you that one of the concerns that all of us in the Department of Defense have is that every year we see, not just in governors, but in Members of the Congress, in business communities all over the country, fewer and fewer people who have had any personal association with the Armed Forces.

Senator WARNER. We see it here in the Congress of the United States.

Mr. DUNCAN. That poses a unique challenge to us. Before we can attempt to persuade, we have to more or less educate and we accept that challenge. But I think it corroborates and supports the comments I think Mr. Tankersley and perhaps General Weber and others made this morning, which is that one of the subtle, but very important aspects of the Guard and Reserve which many active

force people do not understand, is the community support that is out there for military forces and for strong national security. Do not ever underestimate how important that is. It is hard to quantify, but it is definitely there.

Those traditions grow up within a community for a Guard unit, maybe even a local Reserve unit. They are going to become increasingly important, in my opinion, as we have greater and greater numbers of leaders of our country both in Government and out of Government who have no personal association or past personal experience with the military.

Senator WARNER. You and I agree with the basic facts out there, and I do not have the answer. I am working on it. But when the uniformed individual, Reserve or Guard, puts his or her uniform on—well, Guard in this instance—and goes into the street to work on a flood, they are wearing the uniform of the United States, and the citizens may or may not know the distinction between the Guard and an Active soldier, but they look upon that individual as representing the United States of America, and they are wearing that uniform. And, as such, the conduct of that person, the risk that that Guardsman takes, somebody should carefully think through it and make sure when the orders are issued, the operational plan is drawn up, that not only the care and safety of the Guardsman himself is taken into consideration, but how it is to be interpreted by the community.

Mr. DUNCAN. Yes, sir.

Senator WARNER. I mean, we saw pictures the other day. It was the 20th anniversary of Kent State. It was a tragedy that America has learned to live with and hopefully we will never see it repeated. We studied it. Hopefully we learned from it. But those individuals were wearing the uniform of the United States when that tragic episode occurred.

I am not here to debate who was right and who was wrong, but it was a tragedy, and then it had to happen both for the Guard and for the persons who suffered not only death, but personal injury. So we have got to be careful looking at that command and control chain, particularly where the chief executive has really had no experience. I do not say that in a negative way. It is just there are some individuals who have come along in life and not had the experience in the military. Yet they are suddenly thrust in the position to be in command of a Guard unit.

Mr. DUNCAN. Let me make a general response, then I will get on quickly to the other questions. One of the things I think we need to recognize explicitly is that we talk about how good the Guard and Reserve are today, and a lot of us in the Pentagon take credit for some things that maybe we can take credit for and maybe we cannot.

The interesting thing about this debate as we figure out what can we do with the Guard and Reserve in the future, is that we start from a point where we have unique people. I had 18 years in the Reserves myself, and I will tell you if someone went on vacation in about 1979 and came back to this country today, they would not even begin to recognize the change in the quality of the National Guard and Reserve forces that have taken place in a decade.

Now, why is that? Well, it has something to do with incentives, no doubt about that, financial and otherwise. It also has much to do, in my opinion, with giving them modern equipment. When you give reservists modern equipment and make sure they have modern missions to perform, being an All-Volunteer Force, the people who are attracted to that situation are precisely the kind of people who have the skills and who will rise to levels of leadership in their civilian work place and in their communities. They are people who have the skills and the leadership and the extra motivation to do these things.

We cannot lose that. We have to be very sensitive to that. The synergistic effect of better equipment which the Congress helped us obtain, modern missions, and the fact that we really do rely upon them has attracted to the Reserve forces an unusual quality of people that permits us to do things with the Reserve forces we could not have thought about 12 years ago.

All I am suggesting is that as we address that question and similar kinds of questions, we should not lose sight of the fact that while challenges remain, our Nation has progressed a long way in the last 10 to 12 years in the quality of its Reserve forces. That is something that everyone can take pride in.

Senator WARNER. Thank you, Mr. Chairman.

Chairman NUNN. Thank you, Senator Warner, very much. We are going to be working together on this overall subject, and of course your experience, background and knowledge in this area, going back to when this Total Force posture started, and your particular experience as Secretary of the Navy in that respect is going to be absolutely invaluable to this committee, as on other subjects, but particularly on this one.

Mr. Duncan, just one other question for you. On page 19 of your statement you state, "Equal cuts to Active and Reserve forces should not be automatic. Such a philosophy suggests an approach to cutting force structure, but bears no apparent relationship to a sound strategy or plan, and not recognition of the relative costs of Active and Reserve units."

Is that your personal view or a Department view, or both?

Mr. DUNCAN. Well, it is certainly my personal view. My statement was approved by the Department. The Secretary has not talked to me personally about that, but I take the position that anything that is recommended by myself or by any other member of the Secretary's staff, or by a service, should be able to stand on the merits. What I mean by that is, we should ask what is the rationale, what is the theory, what is the basis of the recommendation.

I did not mean to imply, to your question about the Army POM, by the way, that I categorically reject it. I think there are a lot of good things in the Army POM. But I think it is my job to advise the Secretary to look behind the service POMs and to ask what the theory was. What was the rationale and why? And like anything else, it should be held up to scrutiny within the Department, it should be challenged. And it may well be defensible, but the Secretary is best served, I think, by debating these issues vigorously, and that is what we will be doing with each POM.

Chairman NUNN. Well, I certainly agree with that, and I agree with your statement here. I think that is a fundamentally sound statement, and I agree with it completely.

Was this philosophy part of the guidance passed out to the military services before they started putting together that POM?

Mr. DUNCAN. I do not believe so. If it was—I mean, not this specific statement because the POM process started some time ago. So this is a philosophy that I have been expressing, and it has been the subject of much discussion, but I would not presume to know what the Army thought when it prepared the POM. We are not there yet—I will ask those questions, but we are not there yet, so I do not know.

Chairman NUNN. Well, I hope you can get the Secretary to focus on these matters of great importance, and give the services some guidance. My experience is things do not just happen over there. You do not bubble up a strategy. It has to start with some guidance, and then the people putting together this business can really do their thing and do it very well.

But without guidance and without philosophy and without strategy and without plugging in the threat, you simply do not get that bubbling up through the bureaucracy. It just does not happen. If it does it is a coincidence.

So I hope you can take some of your philosophy, which I think is very sound, and get that inserted into some of the guidance the Secretary gives to the services.

Mr. DUNCAN. Yes, sir.

Chairman NUNN. But I know that is an easy job, and just run over there and do it. [Laughter.]

I hope you can.

Thank you, Mr. Duncan for being here. We appreciate your leadership, and we will have some other things to discuss with you as we go along, including some of your views on what is happening in the drug business, but we will save that for another hearing.

I want to thank everyone for being here, you have been most helpful. And I consider this one of our most important hearings because of your participation.

Thank you very much.

Rear Adm. Lester Smith, of the Naval Reserve Association, has submitted a prepared statement that shall be made a part of the record.

[The prepared statement of Admiral Smith follows:]

STATEMENT FOR THE RECORD BY

RADM LESTER ROBERT SMITH, USNR (RET)

PRESIDENT

OF THE

NAVAL RESERVE ASSOCIATION

Mr. Chairman, distinguished members of the Committee, it is a privilege to have this opportunity to present the views of the Naval Reserve Association to the Committee for your consideration.

The Naval Reserve Association believes the decade of the 90's places the Naval Reserve at a crossroads. Clearly the Naval Reserve has the capability of providing a professional, veteran, and experienced naval force already trained by years at sea for the Defense of our country and to do it at a fraction of the cost of a comparable force of active duty only.

The Naval Reserve Association believes that the nation should fully utilize its naval reserve, today over 150,000 personnel, in a way that recognizes both the economic and military threat realities of the 90's.

With a reduced threat combined with an increase in warning time the force structure should be redesigned and tailored for the Total Force requirement for the 90's, not necessarily by growth in numbers, but by a shift of focus. **First**, the Naval Reserve should provide **more hardware units**, (e.g. ships, squadrons) within limits dictated by manning demographics. **Secondly**, the **active cadre** of these units should be **reduced** to the minimum level necessary, and **thirdly**, the **operational tempo** of at least some of these units should be at a **minimum** level necessary to provide an acceptable **readiness** level.

These units should not be made part of the normal fleet deployment schedule as are the current Naval Reserve Frigates. Rather, they should, by design, provide occasional, but not routine, operations with the fleet. Extended

periods of fleet support could be provided by routine call-ups of limited numbers of reservists to support fleet requirements. Finally, and fundamentally, the Naval Reserve infrastructure of Naval Stations, Naval Air Stations and Naval Training centers must be maintained close to the population centers.

This year NRA has proposed several new cost-effective initiatives which would implement the "Proposed Expanded Use of the Naval Reserve". First, we advocate transferring 1052 Class frigates to the Naval Reserve in a reduced OPTEMPO and readiness status in lieu of decommissioning, and assigning some of them to Great Lakes ports, taking advantage of the availability of trained veteran Naval Reservists in midwest population centers. Increased warning-time permits the transit via the St. Lawrence Seaway to open ocean operating areas in a contingency. Second, with the imminent reduction in aircraft carrier forces from 14 to 12 or less we would propose standing up a third Reserve Carrier Air Wing. This would allow retention of skilled personnel and provide a meaningful assignment for the personnel of decommissioned active air wings. This Reserve Wing could be assigned to the carrier FORRESTAL when she replaces LEXINGTON as a training carrier in the Gulf, thereby providing another cost-effective deployable aircraft carrier with a ready air wing. Third, up to four active P-3C land based maritime patrol squadrons could be phased into the Naval Reserve utilizing the existing Reserve P-3 SRU and MAU trained personnel as a nucleus.

It is the Naval Reserve Association's view that these programs will provide the best and most responsive Naval Reserve Force attainable in a reduced budget environment. It also will retain the greatest number of ships and aircraft in an active responsive posture ready for full time employment in defense of our nation.

The Naval Reserve does not fare well in the FY 91 budget. The Navy's proposed closure of NAS S. Weymouth and NAF Selfridge, the continued reduction of Naval Reserve VP aircrews and the premature retirement of valuable P3 assets

are serious actions affecting the readiness and continued viability of the Naval Reserve Force. These force reductions and base closures could well be the tip to the iceberg as additional "big time" reductions to come are being planned for the next budget cycle.

The changes in the world which have recently occurred are so massive and so far reaching in their effect that it is virtually impossible at this time to accurately assess their long range implication. In this situation the Naval Reserve Association believes that the FY 91 budget should at the very minimum preserve the existing Naval Reserve Force Structure until the reasonable threat assessment studies are completed and appropriate Force mix recommendations can be made by the Total Force Policy Study Group.

The Naval Reserve Association believes a well equipped and combat ready Naval Reserve is a most important option to preserve, and views with considerable dismay the DoD base closure plan which, if implemented, would deny the Naval Reserve access to the major population centers of Boston, Philadelphia, Detroit, Long Beach and San Francisco.

It is a fair bet that the 90's will see increased reliance placed on the Naval Reserve. In this environment combat capable equipment is a most critical element. With the worldwide proliferation of modern weapon technology from missiles to very quiet and effective submarines there remains no really low threat hostile environment.

The Naval Reserve Association will now address the following specific key issues affecting Naval Reserve Force Combat readiness and capability:

- o Anti Submarine Warfare
  - Reserve Maritime Patrol (VP) Squadrons
  - LAMPS MK1 Upgrade
- o Reserve Carrier Airwings

- o Airlift Operational Support Aircraft
- o Cargo Airlift Support Aircraft
- o Naval Reserve Frigate Modernization
- o FF-1052 Frigates
- o Mine Warfare
- o Naval Reserve Manpower
- o Base Closures

Anti-Submarine Warfare

The Naval Reserve Force structure is heavily oriented toward anti-submarine warfare. The 13 Reserve VP squadrons, 3 HSL squadrons and the 30 Frigates comprise the greatest percentage of Reserve Force assets. Unfortunately, the age of the equipment assigned requires that they be upgraded to meet the current threat. The Naval Reserve Association has proposed over the past six years a series of equipment upgrades to this old equipment. Some of our proposals have been incorporated already and others are currently in the final stage of development.

Reserve Maritime Patrol (VP) Squadrons

The thirteen reserve VP squadrons are a large segment of the Naval Air Reserve Force. Since 1984 the Naval Reserve Association has expressed its concern over the block obsolescence and inventory shortfall of the P3 aircraft assigned to the Reserve Program.

The publication of an NRA article entitled, "Countdown to Disaster," in the July, 1988 edition of the NRA News clearly and graphically displayed the enormity of the inventory problems. Relative segments of this have been included in congressional testimony every subsequent year. The Naval Reserve Association has urged early action to avoid a crisis management environment. Sadly, successive plans to alleviate the P3 inventory problem have failed to materialize. New P3C production was terminated, the P3D plan production was proposed in 1985 and scheduled production of 25 aircraft per year in 1989 was terminated. The competitively bid P3C, now called the P3G, did not materialize but eventually evolved into the LRAACA program now called the P7. Unfortunately, this program which envisioned a P7 aircraft cost of $37 million has escalated in cost to the $50-$70/$80 million per aircraft including the avionics package and may well be canceled for affordability. Despite our concerns over survivability of the program in increasingly austere budgets, the Naval Reserve Association supports continuation of the LRAACA/P-7 development program and recommends funding for FY 91/92 and out year production.

It is important to remember that the Soviet and third world submarine capability continues to improve and remains our number one threat.

In the face of this reality, however, the Navy and DoD have been forced by P3 inventory shortfalls into a major restructure of both active and reserve VP force squadrons.

The active Navy VP squadrons are reducing their crews by one and their P3 aircraft requirement by two from 9 to 7 aircraft. The Reserve VP squadrons are reducing their crews by 3 (from 15-12 per squadron) and their aircraft from 9 to 6 per squadron.

In the process, 74 P3A/B aircraft are being retired. In spite of the fact that Congress restored all the funding for reserve VP aircrew personnel and VP operations in FY 90, the standard 9 aircraft/15 crew reserve squadron makeup has not been restored in the FY 91 and outyear budget request. (The manpower implications of this decision will be discussed in the Manpower section).

Recommendation:

The Naval Reserve Association recommends that funding and authorization be provided to restore the reserve land based maritime air VP to full wartime complement in both crews and assigned aircraft, and that no further reduction in the critical ASW forces be effected until ongoing force mix and threat analysis studies are completed. NRA further recommends that additional reserve P-3 squadrons be established if funding constraints require further reductions in either active P-3 squadrons or a PAA reduction within those active squadrons. Utilizing the current trained P-3 Squadron Augmentation Unit reserve personnel as a nucleus, it should be possible to man as many as 4 additional reserve P-3 maritime patrol squadrons.

Modernization of the Naval Reserve Land Based Maritime Air (VP) Force

As a result of the Active and Reserve VP force restructure discussed above eleven Naval Reserve VP squadrons and eleven Active VP squadrons will be equipped with P-3B and P-3C aircraft with a common AQA-7 acoustic processor at the end of FY 92. Recent developments concerning the cost of the P-7 indicate at the very least a program stretchout is inevitable. Regardless of the success of the P-7 program, if the current 37-squadron force level is to be maintained, continued use of the existing inventory of AQA-7 baseline P-3B/C aircraft will be required. In order for these aircraft to be able to function against the

near term Soviet threat, the current suite of acoustic processors and displays must be improved. The Improved Processing and Display System (IPADS), a Navy program which has been under development for several years, is undergoing operational evaluation and testing this summer. This system was designed to give the AQA-7 the equivalent acoustic processing capabilities of the UDIII system currently in the fleet. The number of processed channels is doubled from 16 to 32 (double the current UDIII capability) and for the first time there is provided 16 channels with broadband and DIFAR triple verniers. Funding for this critical program is essential if Reserve Force ASW capability is to be maintained.

This crucial Navy improvement program which has been in development and under Navy control since 1987 is currently undergoing Navy test and evaluation. Test results to date indicate all requirements and objectives of the IPADS program will be met. The flight test portion of the testing procedure will be completed in the July - September period of this year. The IPADS system is proving itself to be a capable low cost program offering significant improvement in current AQA-7 acoustics signal processing capability and providing significant growth potential. IPADS has the "provisions" to process the TSS, HLA, and ERAPS sonobuoys. The system architecture, modularity, and programmability of the IPADS design will allow the incorporation of future threat driven requirements, such as improved Sensors. These growth features will allow the IPADS to measure up to the threat and retain interoperability with other updated fleet P-3 aircraft.

Recommendation:

The Naval Reserve Association strongly recommends that funding of $70 million in FY 91 be provided in the Guard and Reserve Procurement account to install the IPADS system on Reserve Force P-3B aircraft.

SH-2 LAMPS MKI UPGRADE

The long and sometimes difficult effort to modernize the Naval Reserve SH-2 LAMPS MKI helicopter has begun to show dramatic results with the recent fly out of the new SH-2G.

The Naval Reserve Association has been a strong supporter of this cost effective low risk improvement program. The installation of T-700 engines, on board acoustic processing, 99 channel sonobuoy receiver, tactical mission computer and aircraft/ship datalink greatly enhance the operational effectiveness of this aircraft. In fact, these incorporated changes provide a

four-fold increase in ASW capability over the baseline SH-2F.

Further inherent growth capability built into the avionic package will allow the incorporation of a new modular dipping sonar into the SH-2G aircraft.

Recommendation:

The Naval Reserve Association strongly recommends the addition of $45 million in FY 91 (six upgrade kits) to continue this important ASW improvement to Naval Reserve SH-2 LAMP MKI aircraft to the SH-2G configuration.

Reserve Carrier Airwings

In the area of reduced Super Power confrontation and the resultant pull back from fixed overseas basing, the role of the navy carrier strike force becomes more important. No other segment of the total force capability provides the flexibility and responsiveness to respond as quickly and independently to safeguard our national interests.

It appears that the perception of a reduced threat and fiscal restraints may force a reduction to thirteen or twelve carriers in the near term with attendant reductions in air wings. In that event, it would appear realistic to stand up an additional (third) reserve carrier air wing to retain the needed capability and trained personnel rather than just decommission and dismantle surplus squadrons. For those skilled airmen who would be RIFed or otherwise be surplus due to reduced Navy manpower requirements, the additional reserve wing would provide productive reserve assignments, and also provide the warfighting capability of a trained ready carrier air wing to augment the active forces.

This new reserve air wing could be assigned to the carrier FORRESTAL when she soon replaces the venerable old LEXINGTON as the training carrier at Pensacola. This would provide an additional deployable cost effective aircraft carrier complete with a ready air wing.

The two current Naval Reserve Carrier Air Wings have been an important part of our carrier strike force for many years. Their importance will continue to grow in the 90's.

An element critical to the effectiveness of a carrier air wing is the capability of their assigned aircraft. The assigned aircraft must be front line

and as fully capable as their active Navy counterparts. To be readily deployable, the reserve wings should mirror image the active wings in aircraft across the spectrum. Because the reserve carrier air wings must be supported by an active navy carrier when deployed, the assigned reserve aircraft must be compatible with the maintenance and support package of the carrier.

These two factors demand that Naval Reserve Air Wing modernization continues in the 90's. The most critical issue facing the Naval Reserve Air Wings today is the introduction of A-6E, KA-6, EA-6B aircraft into the air wings and completion of the air wing complement with S-3 ASW aircraft.

Recommendation:

The Naval Reserve Association strongly supports the continued procurement/ remanufacture of the critical A-6 family of aircraft as required to ensure Naval Reserve Carrier Air Wing requirements are fulfilled, and that S-3 ASW aircraft be assigned to the wings either through the initiation of new procurement or as a result of the currently planned S-3 PAA reduction in the active air wings. Consideration should be given to establishing a third Naval Reserve Carrier Air Wing if there is a reduction in active aircraft carriers and their assigned air wings.

Airlift Operational Support Aircraft

The Naval Reserve's only medium-lift operational support aircraft have been a three plane C-131H squadron based a the Naval Air Facility, Andrews AFB Maryland. One crashed on an acceptance test flight after contractor rework, the second aircraft reached the end of its structural service life and was removed from service in December, 1989, and the remaining C-131F will also be retired by the end of this fiscal year.

The Center for Naval Analyses study of Navy Wartime organic airlift requirements identified a shortfall of medium-lift aircraft needed to support high priority logistic demands of a fleet deployed worldwide. The Navy Air Logistics Office consistently documents substantial shortfalls in CONUS medium-lift airlift availability, resulting in denial of Navy lift requests or inefficient utilization of larger logistic aircraft. Congress recognized this critical shortfall in medium-lift capability and provided for the acquisition of a C-20F for the Naval Reserve Force in the FY 90 budget.

The C-20F has a side cargo door and meets all the specific Naval Reserve

requirements for the medium-lift mission. It can carry 27 passengers or a mix of passengers/cargo totaling 9000 pounds. No other aircraft in the Navy organic aircraft fleet currently provides medium-lift capability. Both the Air Force and the Army have C-20s based at Andrews AFB for potential commonality of support.

Recommendation:

That $57.1M be provided in the Fiscal Year 1991 budget for the acquisition of the two remaining C-20F aircraft, spares and training.

Cargo Airlift Support Aircraft

The most recent Center for Naval Analysis airlift study validates a wartime Navy organic airlift requirement for 29 C-130 type aircraft with tail loading capability for palleted and oversized cargo. The current Naval Reserve shortfall in medium/heavy cargo aircraft resulted last year in the ability to meet only about 65% of their CONUS airlift requirements. There are only 7 C-130s in the Navy inventory and they are aging early models, all out of CONUS. The Navy has proposed a fleet of 12 C-130s for the Naval Reserve divided into 4 squadrons.

Recommendation:

The Naval Reserve Association strongly supports authorization and funding by the Congress of the 2 C-130Hs requested in the 91 Defense Budget for the Naval Reserve as the first increment of procurement.

Naval Reserve Frigate Modernization

Even before the dramatic changes which have occurred in the Soviet Union the Naval Reserve Force of eight 1052 and eighteen FFG-7 frigates was programmed to grow with the transfer of an additional twenty-four 1052 Frigates to the Naval Reserve during the FY 90 - FY 93 period.

For the past six years the Naval Reserve Association has requested Congress to supply funding to permit a modest but absolutely essential upgrade to the ASW and battle management systems on these Naval Reserve Force Frigates.

Continued Congressional support has resulted in upgraded towed arrays

(AN/SQR-18), acoustic processors (AN/SQR-17A), onboard antisubmarine Warfare trainers (AN/SQQT1) to be developed and procured in limited numbers for reserve force frigates.

Congress has also strongly encouraged the Navy to develop and request funding for a Frigate modernization program suited for both the FF-1052 and FFG-7 class.

Although funding has not been included in the FY 91 budget request for this program, the development of a frigate modernization prototype has been accomplished utilizing prior years' funding. Essentially, this program further enhances frigate modernization discussed above by incorporating current engineering changes, improved performance of existing systems to evolve a low risk, low cost frigate modernization package.

Modest add-on funding is required in FY 91 to complete the remaining portion of the required engineering changes and to procure the ship sets necessary for testing. It is expected that a production run modernization package will cost approx $12 million per ship.

Recommendation:

It is strongly recommended that add-on funds be provided in FY 91 to complete prototype development and testing of the frigate modernization package.

1052 Class Frigates

In lieu of the proposed decommissioning of all the 1052 class Frigates, NRA advocates retaining some of these very capable ASW ships in the Naval Reserve in a reduced readiness status. A substantial reduction in the percentage of full time manning and the resulting increase in the selected reserve crew would be cost effective and justify retention of these valuable national defense assets whose primary mission is wartime convoy escort. Reducing the readiness status would allow basing some of these vessels in the Great Lakes at/or near population centers such as Chicago, Milwaukee, Detroit, Toledo, Cleveland, Buffalo, etc. where there are substantial populations of veteran Naval Reservists. Transit time via the St. Lawrence Seaway to open ocean deployment can be accommodated within the increased warning time as now perceived by SECDEF and other defense authorities.

Mine Warfare

The Naval Reserve Association supports the continued procurement of both the MCM and MHC class ships. With the planned program completion of these ships the Navy will be able to conduct effective coastal and open ocean mine warfare operations. The current Airborne Mine Countermeasures squadrons (HM 18 & 19) should be maintained in the Naval Reserve and consideration given to transferring the entire mission to the Naval Reserve Force. The COOP program encompassing port Q acute transit route operations remains in a conceptual stage without a dedicated hull or an identified electronic package. This critical program needs to be further defined and developed.

Naval Reserve Manpower

The Naval Reserve Association is gravely concerned about certain proposals in the FY 91 budget request which, if approved, will have serious implications on Naval Reserve Manpower and combat capabilities.

One is the continued reduction in FY 91 of 33 percent of the Naval Air Reserve Land based Maritime Air ASW Flight crews. This proposal was rejected by Congress last year and full RPN and O & MN funding was appropriated to restore these air crew personnel vital to the continued success of our ASW capability. Although FY 90 funding was restored, the Navy questions the authorization of the 540 billets, consequently the FY 91 budget continues these reductions. Certainly if the threat were decreasing, if the soviet submarine force was becoming smaller and less capable, then perhaps our ASW forces could be reduced. Unfortunately, such is not the case, in fact, just the opposite is true. Every DoD witness, the chairman of the JCS, the CNO, and the Secretary of the Navy, have stated that the Soviet Submarine force is their number one warfighting concern. Further, they have stated that our margin of ASW superiority has been and is continuing to narrow. If this is the case, is it prudent to reduce 33% of the reserve VP force and reduce operational ASW flight hours by approximately 4000 hours per year and seriously degrade an already narrow margin?

Recommendation:

The Naval Reserve Association urges the restoration of $3.5 million in RPN and 540 Reserve Personnel Navy billets authorization in FY 91 for restoration of VP squadron air crew personnel.

Base Closures

Another area of grave concern is the catastrophic impact the proposal to close NAS S. Weymouth and NAF Selfridge will have on Naval Reserve training and readiness. Since there is no announced plan to relocate the Naval and Marine reserve units supported at these locations, closure will result in the losses depicted below:

NAS South Weymouth, Massachusetts

- Forty Naval Reserve commands including an essential long range Naval Reserve VP ASW squadron
- A shipboard helicopter ASW squadron
- A marine attack squadron and a marine helicopter squadron
- 2200 weekend reservists
- 1120 active duty personnel
- 300 civilians

NAF Selfridge, Michigan

- A long range Naval Reserve VP squadron
- A fleet logistics squadron
- A Seabee Battalion
- 2054 Reservists
- 467 active duty personnel
- 63 civilians

It is ironic that even after the Naval Reserve units are disestablished, the base will continue to operate in support of Air Guard and Marine reserve units. One wonders where are the savings?

Recommendation:

The Naval Reserve Association strongly opposes the closure of both of these reserve bases on the grounds that no suitable relocation sites have been identified. Relocation costs could exceed the proposed savings, and most importantly the loss of the trained reserve manpower is not in the best interest of the defense of our nation.

Military Construction Naval Reserve

The FY 91 Military Construction Naval Reserve (MCNR) budget of $50.2 million is strongly supported by the Naval Reserve Association. The construction projects proposed are high priority and essential to the continued modernization and viability of the Naval Reserve.

The Naval Air Station, South Weymouth, as well as the Naval Air Facility at Selfridge AFB outside of Detroit, has been nominated for closure in FY 91. The Naval Reserve Association believes that there is a budget need to reduce the number of bases. However, we are extremely concerned about the closure of Naval Reserve facilities without careful planning for the relocation of the commissioned reinforcing and augmenting units aboard those bases. Relocation of units from bases contiguous to large population centers to those at great distances and near smaller population areas will have detrimental effect on the manning and readiness of those units and the Naval Reserve.

Loss of such strategically located facilities greatly diminishes the ability of the Naval Reserve to attract and retain its most valuable asset, i.e. its drilling reservists. Historically, such losses have not been recouped at the new drill site for many years, if at all.

While the aforementioned sites are the only "dedicated" Naval Reserve sites proposed for closure the Naval Reserve Association is equally concerned about the closure of:

NAS Moffett Field
NAS Alameda
NS Treasure Island
NS Long Beach and
NS Philadelphia

Aboard all of these locations are Naval surface and/or air reserve training and support activities necessary for the continued operation of Naval Reserve

surface and air units. Further, of equal importance, the location of these Active Navy facilities contiguous to large population centers is of great importance to the Naval Reserve. The Naval Reserve is located where the people are; not a necessary requirement with the Active Navy.

Recommendation:

The Naval Reserve Association urges that:

1) Comparative planning defining the relocation requirements, with attendant construction costs if required, be completed.

2) Base closures impacting Naval Reserve units be evaluated for impact on manning and readiness.

3) Force size and Force mix decisions be developed before any base closure decisions.

4) Base closure decisions be prudently made considering Total Navy Force requirements.

[Questions for the record with answers supplied follow:]

QUESTIONS SUBMITTED BY SENATOR SAM NUNN

RESERVE CALL-UP AUTHORITY

Senator NUNN. Mr. Duncan why has the civilian leadership of the Defense Department and the President been reluctant to use the 200,000 Reserve call-up authority in contingencies?

Mr. DUNCAN. I'm not sure that I accept your premise that the civilian leadership has been reluctant. I would not presume to speculate about events that took place before I assumed office in late 1987, but it is my understanding that since the involuntary call-up authority in title 10, United States Code, section 673b became law in 1976, not one of the military departments has ever recommended to the civilian leadership that the authority be exercised.

Senator NUNN. Mr. Duncan have there been any instances when the military commanders have requested the use of this Reserve call-up authority and been turned down? For example, were there any requests from the uniform military to use the Reserve call-up authority during Operation Just Cause?

Mr. DUNCAN. I am not aware of any request on any occasion by a military commander in the field to the civilian leadership of the Department of Defense that the call-up authority be exercised. It is true that during Operation Just Cause General Thurman needed civil affairs expertise to assist in the reconstitution of Panama's governmental infrastruc ture. When I discussed this question with him, on April 4, 1990, he informed me that he had requested a limited number of personnel with specific civil affairs skills and that the Army had concluded that his needs could be met by deploying an Active duty unit from Fort Bragg, augmented by volunteers from the Army Reserve.

INTEGRATION OF ACTIVE PERSONNEL INTO RC STRUCTURE

Senator NUNN. In an effort to more fully integrate the Active and Reserve components, Mr. Will Hill Tankersley, former chairman of the Reserve Forces Policy Board, suggested that full time Reserve and National Guard personnel be replaced by Active force personnel.

What do you think about this suggestion? Would the assignment of Active force personnel to Reserve component units provide better integration between the Active and Reserve components as Mr. Tankersley suggested?

Mr. DUNCAN. As I pointed out in my recent report to Congress on the full-time support program, full-time support to the Reserve components is provided by Active component members, Guardsmen and reservists on full time duty, military technicians and civil service personnel. All four types of personnel bring certain advantages and each has a place in the support of our Reserve structure. Given the valid reasons for using all four types, I cannot subscribe to a total replacement of one type of manpower in favor of another. It is important to RC readiness for a good portion of the full-time support force to be fully schooled in the uniqueness of RC operations. This can be achieved by recruiting existing part-time members into the full-time support force. On the other hand, Active component personnel can bring a degree of expertise to RC training which is not formally found in personnel who have only a RC background. Close familiarity with the field implementation of current doctrine is an example of the kind of expertise that Active force personnel can bring to a Reserve unit. Rotating Active force members through RC units certainly fosters a closer integration between the Active and Reserve forces. Utilizing Active members, recently released from Active duty, in the full-time support program also brings some advantage. The skills of the Active duty member do not, however, always match the skills needed by the RC full-time support force. Striking a balance between the types of full-time support manpower is very important to maximize the support for the RC part-time unit members. This is a constant challenge to the Department and one which we are addressing as part of our overall look at the Total Force Policy.

MEDICAL READINESS

Senator NUNN.Medical readiness in the Reserve components has been a concern of this committee for some time. The most recent Reserve Forces Policy Board report indicates that it submitted a report to you in October 1989 that contained 28 recommendations for improving medical readiness in the Reserve components.

Would you provide for the record a copy of the Reserve Forces Policy Board's report to you on medical readiness of the Reserve components?

Mr. DUNCAN. Early in 1989, I asked the Reserve Forces Policy Board (RFPB) to initiate a study to determine the medical manpower problems facing the Reserve components and to provide recommendations aimed at improving those identified shortcomings. The document the RFPB submitted to me last October contains a compilation of medical manpower problems facing the Department, together with a number of recommended actions for improving some of these existing shortcomings. In light of the current resource and threat environment, the report is currently being examined for possible use in the development of OSD staff action plans for the improvement of the medical manpower issues studied. Consequently, the report is an internal working document being used to assist in the decisionmaking process.

QUESTIONS SUBMITTED BY SENATOR ALAN J. DIXON

Senator DIXON. Mr. Duncan, I believe, and I've stated this before, that we should rely more on the Guard and Reserves as we drawdown forward-deployed forces. This will help us deal with a declining defense budget, and will also allow us to keep sufficient military strength as the threat diminishes. You mention in your opening statement that the Defense Department is addressing this alternative with a major study, the Total Force Policy study. Could you please briefly inform the full committee on the results of the study to date?

Mr. DUNCAN. In recent months, we have conducted four Total Force Policy Study colloquia; we continue to convene weekly meetings to discuss specific data, problems and possible solutions to resolve critical Total Force issues. The work of the Total Force Policy Study Group is proceeding in parallel with, and as a part of, the overall budgeting and programming efforts of the Department. It is very difficult for me to predict today precisely what recommendations the Study Group will eventually

make to the Secretary of Defense or what effect the Secretary's decisions may have on the future size and nature of our Reserve forces.

Senator DIXON. I would like to comment that I do not think a study is the correct approach to this situation. It takes too much time, and I think that the sensible answer is obvious—we should be relying more on the Guard and Reserve. Also, you mention in your statement that this study is proceeding in conjunction with the Department's budgeting and program efforts. I would point out that decisions are already being made, or are in the works. For example, the deactivation of the National Guard 33rd Infantry Brigade, which by the way is an outstanding brigade, located in my State of Illinois, has already been tentatively announced. Why are you making decisions like this before the Total Force Study is concluded?

Mr. DUNCAN. Final decisions have not been made. We are currently engaged in a vigorous review of our Nation's defense requirements in light of recent geopolitical developments and the budgetary restraints with which we must deal. I can assure you that we are sensitive to the need to balance the costs and capabilities of the Reserve components against those of our Active forces.

Senator DIXON. Mr. Duncan, I'm told that the decisions on deactivating National Guard units were made unilaterally by the Active Army without consulting the National Guard. In other words, the Guard was never asked for its evaluation. I don't think this is the way to make these kinds of decisions. For example, I gather that the decision to deactivate the National Guard 33rd Infantry Brigade was made based on data that was 3–4 years old.

Is this true to the best of your knowledge?

How do you justify "this kind of decision making?

Mr. DUNCAN. It is my understanding that the National Guard Bureau is a full partner in force structure changes. The process in which the Bureau participates includes identification, review, validation, documentation, budget preparation, and implementation of force structure within the National Guard.

Senator DIXON. Mr. Duncan, on page 20 of your written statement, you indicate that the relative cost of assigning a mission to a Guard or Reserve unit—versus an Active unit—depends on the mission. You say that in some cases, assigning the mission to the Guard/Reserve unit is cheaper than assigning it to an Active unit, but in other cases it is not. Would you please elaborate on this statement?

How do you determine which units would perform the mission more cost-effectively?

Which missions can be performed more cost-effectively by the Guard or Reserves than by Active units?

Are these types of questions part of your Total Force Policy Study?

Mr. DUNCAN. While costs are an important factor in determining the appropriate mix of Active and Reserve forces, other factors must also be considered, such as forward basing requirements, the peacetime activity requirement for the mission, and the additional training required to reach full combat readiness.

When Guard and Reserve units perform their missions at a lower personnel and operating tempo, they cost less than Active component units. To the extent that Guard and Reserve units must perform their missions with a higher number of full-time personnel and at a higher operating tempo, cost savings are reduced. As a general proposition, Reserve units are usually less expensive than Active units. The goal is to balance the military capability required for a specific mission against anticipated cost savings.

When a mission is initially assigned to the Guard or Reserve, start-up infrastructure (e.g., MILCON) and training costs may make the Reserve components more expensive than steady-state Active component units. However, once the beddown or activation is completed, then costs comparisons are again based on the relative tempo of operations.

There are some forward-deployed missions like the use of Army Guard and Reserve Heavy Equipment Maintenance Companies at the Equipment Maintenance Center in Kaiserslautern, Germany. While rotational travel and transportation costs are higher than what would be incurred by a unit permanently assigned to Europe, cost savings through significant reductions in Active component maintenance backlog are being realized due to Reserve component support.

The Total Force Policy Study is carefully examining cost benefit issues in its deliberations.

TRANSFER OF EQUIPMENT FROM EUROPE

Senator DIXON. Mr. Duncan, I believe that if we are going to rely more upon the Guard and Reserves in the future, we should give them the most modern equipment

available. What kind of planning is the Defense Department now doing for the eventual transferal of equipment from Europe—as we begin to reduce forces overseas—to Reserve and Guard units in the United States.

Mr. DUNCAN. The implications of the anticipated CFE agreements and the impact of budget-driven force reductions are still being evaluated at DOD and Service levels. Equipment requirements and quantities which may become available are in the process of being determined. However, expectations are that equipment which is (1) not treaty limited, (2) determined to be excess to the needs of the European Theater, and (3) determined to be economically feasible to be shipped, may be returned to the United States. Such equipment is expected to become the responsibility of each of the services involved and may be distributed to Stateside Active and Reserve component units according to existing service equipment distribution policies and plans. After release from the European Command, the Guard and Reserve will compete for, and benefit from, the equipment that may eventually become available based on DOD and service criteria.

Senator DIXON. Mr. Duncan, I understand that as the Air Force moved from the F-4 to the F-16 in its Guard units, it placed Active duty training teams in those units during the transition period. This was evidently a very effective training procedure.

Why doesn't the Army use a similar process while it introduces Apache helicopters into the Guard?

Mr. DUNCAN. The Army currently has an effective program to introduce Apache helicopters into all Active, Guard, and Reserve units. The Army uses a centralized cadre of Active duty personnel at the Apache Training Brigade located at Fort Hood, TX to field and train all Apache units. The Apache Training Brigade uses a single station unit fielding plan which provides all fielding battalions augmented maintenance support, priority on range and simulator facilities, and a training period free of administrative distractions in order to complete an intensive period of training prior to a battalion readiness and training evaluation. This approach, ensures standardized and well trained Apache battalions.

National Guard battalions complete the training for the Apache using a 2-year training model. During the first year, the battalion completes individual training and deploys a cadre of key personnel to Fort Hood to train with an Active duty battalion at the Apache Training Brigade. The cadre then returns to home station to complete company level training. The battalion's progress is monitored by the Apache Training Brigade during the cadre train up. In the second year, the entire National Guard battalion deploys to Fort Hood for training and an external evaluation by Active duty personnel. The Army has found this to be an effective training approach which produces trained, mission ready, National Guard Apache battalions.

QUESTIONS SUBMITTED BY SENATOR JOHN GLENN

FLEXIBLE READINESS

Senator GLENN. Mr. Duncan, you indicated in the written statement you provided at an April 18 hearing before the Subcommittee on Manpower and Personnel that:

"As we go about the business of reducing force structure . . . we should guard against the trap of assuming that *any* reduction in military capability or readiness is unacceptable. Certain types of forces must, of course, be kept at the highest state of readiness. Others need not be."

Do you have a strategy for adjusting the readiness requirements of Active and Reserve forces based on the threat; the amount of warning time; the likelihood these forces will go into action; and the availability to lift and transport them to battle?

Mr. DUNCAN. The Department is currently engaged in several simultaneous, efforts to determine future readiness requirements for both Active and Reserve Forces. Policymakers within the office of the Secretary, in the military departments and on the Joint Staff are evaluating possible future threats. The Total Force Policy Study Group is addressing force structure, force mix, and related issues. Our new Conventional Forces Readiness Committee has commenced work and the Defense Planning Resources Board is engaged in a series of program reviews. We are reexamining our resource prioritization process to ensure that we are more sensitive to flexible readiness requirements, including the availability of sufficient lift.

Senator GLENN. Within the Total Force concept, would you envision that certain Reserve and Guard units would be required to maintain a higher state of readiness than Active force units?

For example, if there were cadre divisions in the Active force, wouldn't these divisions be assigned a lower state of readiness than National Guard round-out units?

Mr. DUNCAN. This is precisely the strategy that the Department currently follows. There are some Guard and Reserve units that maintain a higher state of readiness than some Active units.

Senator GLENN. Does the Department of Defense intend to apply the concept of flexible readiness as it makes force structure and force decisions on the POMs submitted by the services?

Mr. DUNCAN. The Total Force Policy Study is examining flexible readiness and several other critical planning factors.

Senator GLENN. Are there any innovative options that you see emerging, such as the "reverse roundout" concept that you have suggested in which a division of ground troops would have two National Guard/Reserve brigades and one Active brigade, instead of the other way around?

Mr. DUNCAN. The Army is exploring new ideas such as the "Double Roundout" concept, e.g., an Active division of ground troops with two National Guard/Reserve brigades and one Active brigade, instead of the other way around. Another innovation is a "Roundin" concept, e.g., a National Guard division consisting of one National Guard brigade and two Active brigades. The idea of tailoring or strengthening both Active and Reserve components may also have application at the small unit (company, battery, troop, etc.) levels.

QUESTIONS SUBMITTED BY SENATOR STROM THURMOND

TOTAL FORCE POLICY STUDY GROUP

Senator THURMOND. Secretary Duncan, in the meetings the Department is hosting on the Total Force Policy, are the views of the State Adjutants General being solicited by the Total Force Policy Study Group?

Mr. DUNCAN. Yes. In various colloquia, a wide range of distinguished current and former policy-makers, military analysts, and commentators shared their views with the Total Force Policy Study Group. These included several current and former Members of the Congress, former Defense Department officials, academicians, journalists, and diplomats. They also included two State Adjutants General, MG Stroud of Louisiana and MG Matthews of Utah.

In addition, LTG (Ret.) Weber, Executive Director of the National Guard Association of the United States, has appeared before the Study Group. General Weber is a former Adjutant General of Oklahoma and former Chief, National Guard Bureau, the official channel of communication between the States and the Departments of the Army and the Air Force. LTG (Ret.) Temple, another former Chief of the National Guard Bureau, has also participated in one of our colloquia. The Director of the Air National Guard, MG Killey, former Adjutant General of South Dakota, is a member of the Study Group. The Chairman of the Reserve Forces Policy Board (RFPB), is also a member of the Study Group. The membership of the RFPB includes current and/or former Adjutants General.

RECRUITING FOR RESERVE FORCES

Senator THURMOND. Mr. Secretary, prior witnesses have indicated that recruiting for Reserve forces should be one of the major considerations in the assignment of additional missions and responsibilities to Reserve forces.

Based on the current Reserve force structure and recruiting efforts, what regions of the country could absorb additional Reserve units?

Mr. DUNCAN. It is DOD policy that before placing a new Reserve component unit in a local community, the manpower potential of the area be reviewed to determine the adequacy for meeting and maintaining authorized strengths in accordance with section 2234(1) of title 10 of the U.S. Code. This review considers a number of factors concerning the manpower market potential of the area. These factors include but are not limited to: age, education, and skill distribution of the population; potential recruiting conflicts for skilled specialists; industrial and professional community composition; community attitude toward Reserve component units; projected population growth; environmental impact; and other factors that might affect Reserve component participation in the area. Coordination between the Military Departments is required to ensure that the placement of Reserve component units does not adversely affect the ability of a unit to obtain or maintain the manpower necessary to achieve satisfactory personnel readiness levels. Decisions on placing additional units are based upon this policy.

Senator THURMOND. Secretary Duncan, we understand that you have been urging the services to be innovative and imaginative in their approach to the training and use of Reserve forces. What specifically do you have in mind?

Mr. DUNCAN. We have a Reserve force today that is substantially more capable than the Reserve force of only a decade ago. This presents an opportunity to explore new training techniques. The fact that we've conducted training in some particular way since the end of World War II is hardly sufficient reason to continue using the same method today. There is nothing sacred, for example, about weekend drills. In certain cases it may make more sense to intensely train a Reserve unit during two periods of 2–3 weeks each.

Good leadership at the unit level can also explore ways to stimulate the "adventure" element of field training and to reduce unnecessary administrative routine.

Increased overseas training for Reserve units is also desirable. The use of Reserve units (e.g., the Heavy Equipment Maintenance Companies near Kaiserlautern, Germany and the Aviation Repair facility in Brussels, Belgium) on a rotational basis to support Active units for normal peacetime operations is proving to be very successful. Increased attention on simulators and other modern training technology must also be considered.

WAR ON DRUGS

Senator THURMOND. Mr. Secretary, as our National Guard and Reserve units become more and more involved in the war on drugs how does the Department ensure that this involvement does not impact on the mission training of these units?

Mr. DUNCAN. Department of Defense guidelines stipulate that National Guard and Reserve antidrug support to law enforcement agencies will be performed incidental to, or in addition to, normal training requirements. Since every effort has been made to match the counternarcotics mission to the reservists' military occupational specialty, these support missions have often been skill enhancing to the soldiers, sailors, and airmen performing the duty.

The maintenance of readiness to perform wartime missions will continue to be critically important. Since I serve both as the Assistant Secretary of Defense for Reserve Affairs and as the DOD Coordinator for Drug Enforcement Policy and Support, I closely monitor the readiness of National Guard and Reserve units. I am satisfied that the services are properly managing their Reserve units to ensure that the performance of the counternarcotics missions does not prevent the units from engaging in the training needed for the performance of wartime missions.

Senator THURMOND. Mr. Reischauer, assuming that the Nation will place greater reliance on Reserve forces. Inherent to this increased share is higher readiness which is achieved in part by more training and exercises. These, in turn, can impact on the civilian jobs that most reservists hold.

Must we consider this situation as we look at assigning additional missions and higher readiness standards to Reserve forces?

Mr. REISCHAUER. Increasing drill dime may be quite difficult, since the Reserve components suggest that many civilian employers of part-time reservists feel Reserve service already requires too much time off. But it would be possible to place forces in the Reserves and not increase the amount of time spent training, if one is willing to accept slower mobilization. And, even if there is a desire to increase readiness, it might be possible to improve the quality of training without adding to drill time. This improvement could, for example, involve procuring more simulators or additional training facilities. Finally, if employer resistance is a problem, the Government could consider added incentives to compensate for employee time spent in Reserve training activities. Any of these changes would reduce the savings shown in the alternatives.

Senator THURMOND. Mr. Reischauer, in reviewing your various approaches to increased reliance on Reserve forces, did you consider the impact of the full time or AGR positions? Have they contributed to unit readiness and is there a need for this group or could they be replaced by active duty personnel?

Mr. REISCHAUER. CBO's estimates of costs assume that added Reserve units in each service are manned in the same way as existing Reserve units. Thus, if units usually have Active Guard/Reserve (AGR) personnel, CBO assumed they continued to have them. Using Active-duty personnel in Reserve units is a possibility; their use would decrease the costs of adding Reserve units by modest amounts.

Senator THURMOND. General Weber, in your judgment what do you consider the greatest hindrance to implementing the Total Force Policy as originally conceived?

General WEBER. First, let me reiterate that, in the view of the NGAUS, the Total Force Policy is the reason we have been successful in integrating the National

Guard and Reserve with the Active duty force and in attaining the current levels of readiness. As we see it, the future force mix developed to meet a prudent level of risk will be a cross section of Active, Guard and Reserve in all deployment categories.

There are two inextricably linked hindrances to implementing the Total Force Policy. The first one is understanding of the Guard and Reserve by Active component leaders. This was a major obstacle in the early years of the Total Force Policy. The Active components were pressured by Congress and fiscal constraints into implementing the Policy. Dependence on the Guard and Reserve was begrudingly accepted, but the myths and old perceptions prevailed and there was no recognition of the fact that the state of the Guard and Reserve in the early 1970s was a direct result of years of inattention and under resourcing by the services.

The second hindrance and the one that will dominate in the 1990s is limited resourcing. Unless the Total Force Policy is expanded to fully integrate Guard and Reserve needs early in the planning, programming and budgeting process, fundamental shortages will continue and may even grow as budget resources shrink.

Experience under the Total Force Policy has fostered an education process that has evolved into a better informed Active, Guard and Reserve force. However, severe budget constraints will lead to increased competition for resources between the services and components within each service. The entrenched misperceptions of the past will return as justification for decisions on force structure and resource allocation. When the force mix has been developed, there must be a commitment by the Department of Defense and the Congress to fully resource that force so that it is manned, equipped and trained to the required levels of readiness.

Senator THURMOND. General Weber, in fiscal year 1989 approximately 3,100 Reserve or National Guard elements trained overseas. What has been the impact of the extended—and in some cases multiple—deployments on the Guardsmen and their civilian employer. Can we do anything to assist our Guardsmen in this area?

General WEBER. In general, the employers of this Nation are supportive of their personnel who participate in the National Guard and Reserve. Educating employers and the general public about the changing role of the National Guard and Reserve and the demands and requirements placed on them is essential to continued employer support.

Effective and timely communication by the command structure to the individual member and by the member to the employer is key. This is particularly true in small business where there is limited employee depth. But that is a problem that must be worked within the Guard and Reserve.

Incentives for employers such as public recognition of their support is important. A tangible tax incentive for employers is worthy of consideration. Continuation and perhaps expansion of incentives for the individual such as education benefits, can also be of benefit to the employer and can help to offset the increasing demands of National Guard and Reserve service.

The civilian occupation of Guard and Reserve members can, at times, be a problem but it also has a very positive effect on our national defense effort. As I pointed out in my opening remarks, Guard and Reserve members are involved in the social fabric at the community, State and national levels. The demographics of the Guard and Reserve put us in a position of being the closest connection between the defense establishment and the people. The benefits of that relationship far outweigh any costs.

Senator THURMOND. General Weber, what is your reaction to General Tankersley's suggestion that Active forces personnel be assigned to National Guard units on a regular basis?

General WEBER. The only advantage of General Tankersley's proposal would be an improved understanding of the roles of the Total Force. Not only would Active, Guard and Reserve personnel gain a better understanding of their respective capability, but the Active component personnel would gain an insight into the restraints and limitations faced by the citizen-soldier.

However, there are significant disadvantages, particularly if his intention is to have Active personnel replace AGR/military technician full-time support within the Guard and Reserve. A major strength of the National Guard system is the stability and experience levels in our units. That would be eroded with a constant rotation of Active component personnel. Previous experience with Active fill of National Guard positions has demonstrated a problem with filling positions and long lag times. Experience also shows there is a propensity to assign personnel who are not performing at a level that would target them to more critical positions in the Active structure or are late in their career and are not seeking career advancement.

A second issue is the fact that Active component personnel would face a tremendous learning curve which would affect Guard readiness. For those assigned to a Reserve component for the first time, there would be a lack of familiarization with the basic structure and operation of the unit and there could be a lack of familiarization with equipment. There are basic differences between Active and Guard units, such as the requirement in the Guard to recruit its own members into the unit and manage their entire careers without routine, periodic moves. If Active component members are inserted into the command structure of Guard units, that delicate system of personnel management will be seriously altered. Also, the equipment in National Guard units frequently is not the state-of-the-art equipment used by Active component personnel. Assignment of Active component personnel who have no experience maintaining or training on older equipment still in the Guard will have a negative impact rather than assisting the Guard in any way in improving readiness.

Finally, there is the issue of experience level. Since the National Guard and Reserve attend the same schools and are taught the same doctrine as their Active counterparts, currency is not really an issue. Experience level would favor the National Guard and Reserve. For example, it would be impractical to assign an F–16 pilot with 6 years of experience to a unit where most of the pilots in the unit have twice the flying experience.

A more appropriate way to integrate the Active, Guard and Reserve would be through readiness or affiliation cells. Active component personnel could be assigned to a cell within a geographic area to support the Guard and Reserve and serve as unit advisers. They could then serve as a pool of resources for the National Guard and Reserve unit commanders to tap for expertise and assistance. Additionally, that would allow the Active personnel to remain in a supportive environment for quality of life items such as medical care and housing.

We support cross leveling and increased interface, but we believe it is important to preserve the integrity of National Guard and Reserve units.

CONUSA

Senator THURMOND. General Hultman, you advocate the elimination of the Continental Armies. Would you explain the function of these commands and why you believe they could be eliminated?

General HULTMAN. CONUSAs were originally organized to support and monitor the Reserve components in the areas of mobilization and training (wartime missions). They have done an excellent job in managing the CAPSTONE program in their respective areas as well as providing training support/assistance through their Readiness Groups. Peacetime command and administrative functions were not a part of the original CONUSA concept and are more appropriate to a separate Army Reserve Command. The model for the CONUSAs relationship with the Army Reserve is its current relationship with the Army National Guard. Whether to eliminate or reduce some or all of the CONUSAs is being looked at by the Army at the present time.

ROPMA

Senator THURMOND. General Hultman, I noticed that in your prepared statement you did not address the need for the Reserve Officer Personnel Management Act. How important is this legislation toward furthering the professionalism and management of the Reserve Officer Corps and do you still support it?

General HULTMAN. The Reserve Officers Association fully supports ROPMA and urges that it be adopted in its present form (H.R. 2200) as soon as possible. While ROPMA was not addressed in my statement regarding the future role of the Reserve components before the full committee, it was addressed in testimony presented to the Senate Armed Services Personnel Subcommittee.

The ROPMA proposal would update management of the Reserve forces and better align them with the Active force. The proposal would provide the necessary options to manage the Reserve components under the changing peacetime and mobilization scenarios. It would provide needed flexibility to accommodate a personnel force which serves in uniform part-time and is restricted in its mobility by civilian employment. It codifies management options, such as delay of promotion, selective retention and continuation, which would provide needed flexibility for managing the Reserve force. Finally, ROPMA would place into law many policies the services have used over the years to manage the Reserve force, e.g., establishing competitive categories for promotion consideration, special review boards, and the configuration of promotion panels.

This proposed legislation has been fully staffed by a member of the Armed Forces who joined the House Armed Services Personnel and Compensation Subcommittee staff for that purpose. During the only hearing scheduled to consider ROPMA, the proposal received nothing but support from each of the services and from the military associations which were provided the opportunity to testify. ROPMA remains high on the priority of ROA members. The Congress has too long delayed action on ROPMA, and the committee is urged to pass the proposal as soon as possible.

USAR COMMAND

Senator THURMOND. General Hultman, you have been actively supporting placing the Chief, Army Reserve in command of his component. Could you provide us the current status on the Army's proposal on this important issue?

General HULTMAN. A Memorandum of agreement (MOA) to directly distribute USAR funds to Major United States Army Reserve Commands was finalized on 13 July 1990 with the signatures of Commander, Forces Command and the Chief, Army Reserve. This MOA is considered the first phase in addressing the overall issue of USAR command and control called for by the Congress. However, the Army leadership has yet to release any additional positions on this important issue of placing the Chief, Army Reserve in command of his component.

RESERVE UNIT LOCATION

Senator THURMOND. General Hultman, you indicated that Reserve unit locations are driven by the demographics of the civilian population. Based on my information (Senator Thurmond), the demographics would support additional Reserve units in only two or three regions of the country.

Is that information correct and in your judgment what regions would most likely be able to host additional Reserve units?

General HULTMAN. Current demographic data is provided by the U.S. Army Recruiting Command and is based on that portion of the population that is male and between the ages of 17 and 29 with no prior service. This is the primary recruiting base, but it excludes female and prior service populations. Therefore, any estimate of recruiting potential will be conservative, based on the exclusion of these two categories.

According to our best information, the areas of the country with the most potential for Reserve component growth are the South and the Southwest. There is also limited potential in the Midwest and the West. However, it is important to note that this estimate is based on U.S. Army Recruiting data that does not include prior service and female populations as mentioned above. But while the call-up should affirm the Total Force Policy, we can expect to learn-from the experience.

On 12 September, the ROA Executive Director, Maj. Gen. Evan L. Hultman, AUS (Ret.) testified before a joint House and Senate Veterans' Affairs Committee hearing, Chaired by Congressman G.V. "Sonny" Montgomery (D-Miss.) and Senator Alan Cranston (D-Calif.) on the Soldiers' and Sailors' Civil Relief Act and Veterans Reemployment Rights. General Hultman outlined some known problem areas and commended the committees for their consideration of reservists' needs, but cautioned the committees that it is too early to understand and correct all of the problems that reservists are encountering. Additionally, ROA will ask the Congress to further consider Reserve component participation in "Desert Shield", looking at the strengths and weaknesses.

But while the call-up should affirm the Total Force Policy and provide support to legislative initiatives, it is hoped that it will be an excellent medium for lessons learned. In addition to providing urgency and new dimensions in the quest for the most effective force mix, the call-up will have exposed some policy and procedure deficiencies that require remedial attention.

ROA will call on the Congress to conduct some in-depth hearings on the call-up and mobilization of Reserve forces. Congress should ask: What aspects of the Total Force Policy worked well, what mushy DOD and the services do to improve on the performance, and what legislation, if any, is needed?

QUESTIONS SUBMITTED BY SENATOR JOHN MCCAIN

Senator MCCAIN. Is it correct to say that you made no attempt to look at global priorities for U.S. contingency capabilities in analyzing your trade-offs between Active and Reserve forces?

Mr. REISCHAUER. No. In constructing the alternatives, we evaluated the size of the forces remaining on active duty after the transfers to the Reserves and compared them with the forces used in historical peacetime contingencies. We concluded that the United States would still have enough active-duty forces to handle the smaller conflicts it has faced in the past. For example, under the base case in Dr. Reischauer's testimony, the United States would still have 11 Active Army divisions and a total of 1.6 million people on active duty in all the services. Operation Just Cause in Panama—the biggest military contingency since Vietnam—involved only 27,000 personnel.

Senator MCCAIN. What specific assumptions did you make about the need for U.S. forces in Europe over time? What kind of a war did you assume would take place?

Mr. REISCHAUER. It is not CBO's role to propose one particular U.S. defense strategy. Rather, it is our job to develop and evaluate alternatives to the administration's defense program. In this testimony, we responded to committee requests and analyzed the effects of a large cut in Active forces, illustrative of the types of cuts currently being debated. Since many analysts are concerned about whether the world will really become and remain a safer place, Alternatives I and II in the testimony add forces to the Reserves as a hedge against uncertain future events.

Senator MCCAIN. What are your projections for the future role and size of Eastern European forces, and about the future structure of the Warsaw Pact. What specific assumptions did you make in each area regarding the policy, strategy, political positions, and military forces of each Eastern European country? What changes did you assume would occur during the period between the present and the time it would take to execute each of your options?

Mr. REISCHAUER. The model used to analyze force ratios in this testimony is a static measurement that accounts for the numbers and quality of military forces. It does not attempt to reflect particular military strategies or policies. To reflect the effects of a range of possible assumptions about future threats, we calculated two sets of force ratios. One set compared NATO forces with the forces of all the Warsaw Pact nations; the other compared NATO forces with forces of the Soviet Union.

Senator MCCAIN. What are your projections for the future role and size of Soviet active and reserve forces, their deployments, and their relationship with other states within the Warsaw Pact. What specific assumptions did you make in each area regarding policy, strategy, political position, and toward each branch of the Soviet military forces? What changes did you assume would occur during the period between the present and the time it would take to execute each of your options?

Mr. REISCHAUER. We made no specific assumptions about strategies or policies. As for changes in Soviet forces, the ratios provided in Table A-3 of the testimony assume that Soviet ground and air forces in the ATTU region (between the Atlantic Ocean and the Ural Mountains) are cut to the levels in the NATO's proposed version of the treaty on conventional forces in Europe (CFE). The ratios also assume that older equipment is eliminated first.

Senator MCCAIN. What are your projections for the future role and size of Western European forces, and about the future structure of the NATO. What specific assumptions did you make in each area regarding the policy, strategy, political position, and military forces of each NATO European country? What changes did you assume would occur in need for given kinds of U.S. reinforcements to fit in with the changes in West European force structures during the period between the present and the time it would take to execute each of your options?

Mr. REISCHAUER. We made no specific assumptions about strategy and policy. As for military forces, the ratios provided in Table A-3 for the alternatives and the base case assume that NATO ground and air forces in the ATTU region are cut to the levels in NATO's proposed version of the CFE Treaty. Each of the NATO allies is assumed to cut its forces in proportion to its share of forces now in the ATTU region. The ratios also assume that older equipment is eliminated first.

Senator MCCAIN. Table A-3 shows changes in force ratios that would be statistically irrelevant in most previous wars, particularly if only the Soviet/NATO ratio is considered. Why are these changes in force ratio assumed to be worthwhile, and what historical examples can you give to validate such assumptions?

Mr. REISCHAUER. The force ratios in this testimony should not be used to predict the outcome of wars, for several reasons. They do not attempt to include noncombat support. They do not predict losses after combat begins. Nor do they incorporate the effects of military strategy, morale, leadership, luck, and a variety of other factors that are difficult to quantity but would be relevant to the outcomes of wars.

However, the numbers of forces and their quality—the factors measured by the force ratios—are important factors in assessing combat capability. They also reflect

what the Congress directly controls—units and equipment. And force ratios, whatever their predictive capability, are frequently used in defense analysis both within the Department of Defense and elsewhere. Thus, we feel it is reasonable to present them in this testimony. Moreover, we use force ratios in a way many analysts feel is most valid—to assess changes in capability caused by large changes in force structure.

Senator McCAIN. What relationship do the Navy data in Table A-3 have to any kind of scenario or force ratio analysis?

Mr. REISCHAUER. The Navy data in Table A-3 are, of course, simple counts of Navy ships and not the result of analysis of either scenarios or force ratios. As far as we know, there are no Navy measures of ship capability comparable with those in the force ratios for the other services. Rather than ignore the Navy entirely, we used ship counts—a measure the Navy itself frequently uses to express its force goals.

Senator McCAIN. The cost data in Table A-I do not seem to make a case for major economies in naval forces, but only one class of ships is listed. What other trade-off data do you have on naval forces?

Mr. REISCHAUER. Costs used in the CBO analysis are products of a CBO model that is based on DOD budget data. Since the Naval Reserve has relatively few types of ships, budget factors for frigates—the most numerous reserve ships—seem to be the best proxy for ship transfers and were used for that purpose in our analysis. As you suggest, Naval Reserve ships cost almost as much to operate (80 percent) as Active ships, primarily because they have relatively high operating tempos and large numbers of full-time people. They would be relatively cheaper if they operated less in peacetime, as Senator Nunn has suggested in his recent series of speeches on the defense budget. In terms of other naval forces, Table A-I also shows the relative costs of Active and Reserve naval air wings, with Reserve wings costing about 55 percent as much as Active wings.

Senator McCAIN. Does any aspect of your analysis examine the cost of correcting the existing deficiencies in the readiness and sustainability of Active and Reserve forces?

Mr. REISCHAUER. No. We assumed that additional Reserve units cost no more to operate than similar units cost today.

Senator McCAIN. Do you simply assume all existing forces are adequate?

Mr. REISCHAUER. For purposes of costing, yes. This may be a reasonable assumption in a period when, by most measures, the threat is declining and mobilization time—the time to get ready—is increasing. We would agree, however, that additional funding would be necessary if the Reserves are to be able to mobilize more quickly than they can mobilize today.

Senator McCAIN. You do not show any data for combat support, service support, logistic or other forces other than major combat forces. Did you examine any of the cost and effectiveness trade-offs in creating a Total Force in each service? If so, please provide this examination for the record.

Mr. REISCHAUER. CBO's costs assumed that overhead costs—which include many of the activities you mention—would be cut or added in proportion to the operating costs (direct and indirect) associated with the units cut or added. In addition, we assumed that the military would need to pay some additional costs—about $0.6 billion—to recruit the added numbers of drilling reservists required under Alternative I. Other actions—such as increases in the size of the training establishment or more full-time people to increase Reserve readiness—might also be considered if Reserve units are added. CBO did not estimate the additional resources needed for such actions.

Senator McCAIN. If you have not examined this issue, please indicate the additional cost necessary to bring the Total Force up to your desired effectiveness goals for each type of Reserve and each service in each option.

Mr. REISCHAUER. As the answer to question 8 indicated, we assumed that the current levels of effectiveness were acceptable for purposes of costing.

Senator McCAIN. What combat effectiveness criteria did you use in structuring your options. Please provide this part of your analysis for the record, and show how long it would take to bring given Reserves up to the desired level of combat effectiveness and indicate whether it would be the same level of effectiveness as Active forces.

Mr. REISCHAUER. All ratios shown in the CBO testimony reflect force balances after enough time has elapsed to permit full mobilization. We have made some assessments of how much time might be required to mobilize and the capability that would be available. For Alternative I and the ground forces of Alternative II, we concluded that the added Reserve forces or cadre units would have the same capa-

bility and would be available at the same time as Reserve forces of comparable type in the force structure today.

Army Reserve component divisions are assumed to deploy 1 to 2 months later than Active divisions and have lower combat capability scores, since their equipment is older than the equipment of Active units.

Air Force units are assumed to deploy at the same time as Active units based in the United States; DOD has indicated that many Reserve air squadrons would be expected to reinforce units in Europe in about 10 days. The Air National Guard and Air Force Reserve have aircraft of slightly lower capability than do Active Air Force units, and their combat capability scores reflect that.

The stored aircraft in Alternative II and the units that support them are assumed to deploy later than Active or Selected Reserve units. We assume that these planes could be available about as rapidly as naval aircraft currently in contingency storage at Davis Monthan AFB in Arizona. According to the Air Force, these planes could be available in 1 to 2 months.

Ships currently in the Naval Reserve are expected to be available about as quickly as nondeployed Active ships. Hence, we assume the ships added to the Naval Reserve in Alternative I would also be available about as quickly. It is more difficult to assess how rapidly the nested ships of Alternative II would be available, since there is no experience with the concept to serve as a guide. It seems reasonable to assume that it would take longer to ready them for combat than the stored planes. We assume that perhaps as long as 6 months to a year might be needed.

Senator McCAIN. If you have not examined this issue, please indicate the additional cost necessary to bring the Total Force up to current effectiveness goals for each type of Reserve and each service in each option.

Mr. REISCHAUER. See answer to question 8.

Senator McCAIN. Do you assume that all of the Reserve forces you propose would have the same mix of mission capabilities as Active forces? If not, what mission capabilities would be sacrificed by type of Reserve force and service?

Mr. REISCHAUER. No. Reserve forces cost less because they train and operate less than Active forces. Thus, they often are not available as quickly as forward-deployed Active forces and cannot perform all the same missions. This is particularly true for ground combat Reserves. Even air Reserves do not train for all of the same missions as Active forces. For example, the Active Air Force has argued that Guard and Reserve fighter squadrons do not train for the mission of delivering nuclear weapons, and they are unlikely to train for both fighter and attack missions. Naval Reserve ships would not routinely be available for peacetime deployments.

Senator McCAIN. You do not show any data for the cost of lift for the combat, combat support, service support, logistic or other forces other necessary to deploy the Reserve forces you describe. Did you examine any of the cost and effectiveness trade-offs in creating the air and sealift necessary to deploy and sustain a balanced Total Force in each service? If so, please provide this examination for the record. If not, please provide the estimated additional cost based on the European combat scenario you have defined and the existing strategic lift program.

Mr. REISCHAUER. No funding was included to procure additional air or sealift for any of the alternatives. Instead, we assumed that Reserve forces based in the United States would have time to redeploy without any increase in lift assets. This assumption seems consistent with recent assessments of how much warning might precede any future war. For example, earlier testimony before your committee indicated that warning times had increased from 10–14 days to 33–44 days, and some defense experts aver that much longer times may be safely assumed.

[Whereupon, at 12:15 p.m., the hearing was adjourned.]

DEPARTMENT OF DEFENSE AUTHORIZATION FOR APPROPRIATIONS FOR FISCAL YEAR 1991

THURSDAY, MAY 17, 1990

U.S. SENATE,
COMMITTEE ON ARMED SERVICES,
Washington, DC.

CONCURRENCY IN THE DEPARTMENT OF DEFENSE ACQUISITION PROCESS AND PROGRAMS

The committee met, pursuant to notice, at 9:08 a.m., in room SR-222, Russell Senate Office Building, Senator Sam Nunn (chairman) presiding.

Committee members present: Senators Nunn, Exon, Levin, Bingaman, Dixon, Glenn, Warner, Thurmond, Cohen, and Gorton.

Committee staff members present: Arnold L. Punaro, staff director; Andrew S. Effron, general counsel; and Daniel G. Sakura, research assistant.

Professional staff members present: Robert G. Bell, Creighton Greene, John J. Hamre, William E. Hoehn, Jr., David S. Lyles, and William H. Smith.

Minority staff members present: Patrick A. Tucker, minority staff director and counsel; Jonathan L. Etherton, George W. Lauffer, and Mark B. Robinson, professional staff members.

Staff assistants present: Cindy Pearson and Mickie Jan Wise.

Committee members' assistants present: Andrew W. Johnson, assistant to Senator Exon; Kenneth N. Luongo, assistant to Senator Levin; William J. Lynn, assistant to Senator Kennedy; John Gerhart, assistant to Senator Bingaman; Charles C. Smith, assistant to Senator Dixon; Milton D. Beach, assistant to Senator Glenn; Terence M. Lynch, assistant to Senator Shelby; Dale F. Gerry, assistant to Senator Cohen; James M. Bodner, assistant to Senator Cohen; Patrick F. McCartan, assistant to Senator Wilson; Robert M. Soofer, assistant to Senator Gorton; Charles G. Pearcy, assistant to Senator Lott; and Eric H. Thoemmes, assistant to Senator Coats.

OPENING STATEMENT OF SENATOR SAM NUNN, CHAIRMAN

Chairman NUNN. The committee will come to order. The committee meets this morning to receive testimony on the issue of concurrency in the weapons acquisition process in the Defense Department and specifically on the concurrency of major weapons systems currently in the budget.

The term concurrency refers to the amount of overlap between the development phase—that is research, development, and test-

ing—and the production phase of a weapons system. Concurrency occurs when the services start the actual production of a weapon when it is still being developed and tested. At the stage where we start producing in a concurrency situation, we do not know for sure that the system will work as promised.

The B–1 bomber is one example of the problem with excessive concurrency. The Air Force structured a program that called for 3 years of procurement funding before operational testing had ever begun. The entire 100-plane program was authorized and appropriated before initial operational testing was completed. Those tests uncovered serious shortcomings in the defensive electronic system on the B–1 which has already cost and will cost a lot more, will cost millions of dollars, if not billions, to correct. In fact, the system cannot be corrected to its original specifications and there is even uncertainty about the proposed fixes.

The sad results in this case and others are testimony to the ill effects that can come with excessive concurrency. I should add that I opposed this concurrency at the time and offered several unsuccessful amendments to change the acquisition approach. If problems with the program are discovered after production has begun, the cost to correct the problems can be enormous.

Two years ago the Congressional Budget Office issued a report on concurrency and found that cost growth on highly concurrent programs they studied averaged 288 percent. We have known of the risk inherent in concurrency for some time. When David Packard was Deputy Secretary of Defense, he recognized this problem and called for a systematic approach, which he called "fly before you buy." Before we commit to the procurement of weapons, we would fly or test a prototype to determine if it will work as promised and would be affordable.

During the past 15 years the Department of Defense has moved away from this principle. During the 1980s the services argued that concurrency was a necessary risk because of the advance of Soviet technological breakthroughs. The services established fielding dates for new weapons systems that required excessive concurrency because they argued that we needed to field technologically superior weapons in order to counter Soviet superiority. Of course, there was some validity to that. It was not an easy choice to make in many cases and we have to acknowledge that.

But that condition has now changed. We now, I think, have the time to make sure the weapons will work as advertised before we get locked into procurement schedules. Certainly, I would say that if we decide to go with concurrency on a program, and we will from time to time, a strong burden of proof should be on those who advocate concurrency as to why it is necessary in that time frame.

This morning we have three witnesses to share their perspective on this subject. We will proceed first with Mr. Frank Conahan, Assistant Comptroller General with the General Accounting Office, who has testified many times before our committee and has been an enormous help to us. Mr. Conahan has a long-standing commitment that will require his departure by 10:15 a.m.

Our second panel will consist of Dr. Donald Hicks, former Under Secretary of Defense for Research and Engineering. We have know Dr. Hicks and been assisted by him for many years. Mr. John

Krings, the former Director of Operational Test and Evaluation, is also familiar to those of us on this committee. Mr. Krings was the first individual to serve in that capacity. Both Don Hicks and Jack Krings bring extensive experience in industry, as well as government. I am grateful to them for all of their continuing help and for being willing to testify now that they are back in the private sector.

I think Senator Warner is on his way. Senator Cohen, do you have any opening remarks?

Senator COHEN. Thank you, no.

Chairman NUNN. Senator Glenn?

Senator GLENN. Thank you, no, but I do agree with your statement about how important this is.

Chairman NUNN. Senator Dixon has asked that his prepared statement be made a part of the record.

[The prepared statement of Senator Dixon follows:]

PREPARED STATEMENT OF SENATOR ALAN J. DIXON

Mr. Chairman, I am delighted that the committee is going to receive testimony today on "Concurrency in the Department of Defense Acquisition Process and Programs." I welcome our distinguished witnesses.

The chairman has proposed—as part of a new U.S. military strategy—that we "return to the principle of flying before buying." In other words, we should move away from the practice of concurrent development, testing, and production in our defense acquisition process. I believe that this is an excellent idea.

The U.S. Comptroller General's testimony on the defense budget, presented before this committee earlier in the year, mentioned that "during the 1980s, numerous systems were approved for production before adequate testing had been done to ensure that the weapons did what they were supposed to do. This strategy of concurrent production and testing was designed to get systems in the field more quickly, but it often resulted in making extensive—and expensive—changes after the systems were fielded." Why did we pursue this strategy? The answer is easy—the perceived urgency of the Soviet threat. It was believed that the U.S. needed to get new weapons ready to go as soon as possible.

Mr. Chairman, the 1980s are over, the world is dramatically changing. Although considerable uncertainty still exists about future challenges to U.S. national security, it is clear that the Warsaw Pact threat to NATO security has been drastically reduced. This reduced threat means that the old perceived urgency to field new weapons rapidly must be put to rest. In many instances we can skip the next generation of weapons and continue relying on—and improving—the systems we already possess. In other cases where we decide that we must move on to a new system now, we should be able to stop the practice of concurrent development, testing, and production so that we make sure these new weapons really work.

Our job on this committee is to figure out how to return to the practice of "flying before buying." For example, we need to know how much it will cost, and which programs we should focus on if we are to be successful. I believe that this hearing will provide an opportunity to begin this process.

Mr. Chairman, I look forward to hearing from today's witnesses.

Chairman NUNN. Mr. Conahan, we ask you to take your seat and we look forward to receiving your testimony.

STATEMENT OF FRANK C. CONAHAN, ASSISTANT COMPTROLLER GENERAL, NATIONAL SECURITY AND INTERNATIONAL AFFAIRS DIVISION

Mr. CONAHAN. Thank you, Mr. Chairman. I appreciate the opportunity to be here this morning to help the committee in its exploration of this important topic. I have a fairly short statement and I would like to proceed through it for the most part.

Concurrency, of course, can be used to expedite the development and production of weapons systems. As you mentioned in your opening statement, I think from time to time it is appropriate for use. However, our work on several systems has illustrated that rushing into production before critical tests are successfully completed has resulted in the purchase of systems that do not perform as intended. You mentioned the B–1. There are other examples.

We believe that the Department of Defense can no longer afford, as a matter of fact, to concurrently develop and produce many of the high-cost systems that are currently in development or production without better knowledge of how they will work before they are completed. We also believe, as you pointed out, that recent changes in the national security environment mean that we may have some more time to do these things differently than we have been doing in the early part of the 1980s.

You defined concurrency; I do not need to say much more about that except that from whatever perspective one views concurrency, the best way to reduce risks in a system's acquisition is to get early indications before production of whether a system will perform as intended. Early operational testing is a key internal control to ensure that decision-makers have the best information available on a weapon system's performance, to minimize risks of buying costly and ineffective weapons.

Determining if systems work after production starts can significantly increase the cost of such systems if major problems are discovered as a result of the testing process. Also, you may end up with less than was desired at the outset of the program. Again, there are several examples of that.

Let me talk about the results of our work in this area. I might proceed by saying that at the moment there are systems underway with an acquisition cost of about $1 trillion, with more than half of that to be spent. The growing cost of these systems, some with uncertain or unproven capabilities, together with changes in the national security environment, has presented us with tough policy choices.

I testified recently before the House with respect to the B–2 bomber. The big question there was what would be the cost of delaying that particular program. I do not think we have a good answer to that question but it does show the dilemma that we are in. We have gotten ourselves to the point where we have these big systems out there.

There certainly are economic impacts of either cutting back, canceling, or delaying. If we had done the systems acquisition job correctly to begin with, we probably would not be faced with that particular dilemma. In the case of the B–2, we will have 31 aircraft on order before operational testing of that system is completed. The money associated with that number of planes is about $48 billion. We have a similar situation with respect to the Rail Garrison for the Peacekeeper. There we will have some 73 percent of the launch cars on order before operational testing is completed.

Chairman NUNN. On the B–2, Mr. Conahan, are you taking into account the recent changes by Secretary Cheney on that testimony?

Mr. CONAHAN. No. I am glad you brought that out, sir. As a matter of fact, that number now changes, and I have it here. It will be 25 rather than 31 on order before testing is completed.

Chairman NUNN. Before testing?

Mr. CONAHAN. Yes, sir. Earlier this year we reported that as many as 15 of 29 planned SSN-21s worth about $21 billion are to be on contract or under construction before the first ship is available for operational testing. The combat system for that submarine, the BSY-2, is crucial to the performance of the submarine. It is a very technically complex and challenging system. Its software development efforts face many challenges. There are problems to overcome; it will require the development and integration of several million lines of code which have not been tried before. Testing of that system will proceed well after an awful lot of both the combat system as well as the submarine itself have been procured.

With respect to the C-17 aircraft, we have, again, a concurrent development and production program. Before the scheduled first flight of development aircraft in 1990, 12 production aircraft were planned to be on contract. By the end of the first flight program, nine production aircraft were planned to have been delivered. And assembly of the 18th aircraft was scheduled to have begun.

Again, in this case, Secretary Cheney has reduced that program from 210 to 120 transports. There is a re-assessment of how that program is going to be carried out. I do not have the details on it. But, as we look at it preliminarily, there is still a large degree of concurrency in that program.

Finally, we reported that the DDG-51 contractor has experienced problems in designing and constructing the lead ship. Although the first ship is only 1 percent complete, the estimated cost to complete it already has increased by 11 percent. In our report on the DDG-51 program, we recommended that the Secretary of Defense delay the contract award for follow-on ships until he could provide assurance as to the affordability of the program. That was done earlier this year. In February the Navy awarded contracts for five additional follow-on ships, and now has a total of 12 follow-on ships under contract. The Navy could have as many as 17 ships under construction or awarded before the lead ship has finished testing and has been delivered in February of next year.

We have issued a number of reports over a long period of time, Mr. Chairman, pointing out that the services have not given the kind of attention that we think is required in the testing of systems before production begins. We are issuing a report today which contains essentially that same message.

I think that—again, I am not here to suggest that concurrency is inappropriate across the board. I think that there are cases where concurrency is quite proper. I think that we have to assess the risks on a case-by-case basis. I think the national security environment today versus 10 years ago permits us to be more cautious; and permits us to look at these systems with respect to the degree of concurrency more than we were able to perhaps 10 years ago and that some of these systems that are presently underway should be looked at in that light.

I will take whatever questions you have, Mr. Chairman.

[The prepared statement of Mr. Conahan follows:]

Statement of
Frank C. Conahan, Assistant Comptroller General
National Security and International Affairs
Division

WEAPON SYSTEMS: Concurrency in the Acquisition Process

Mr. Chairman and Members of the Committee:

I am pleased to be here today to discuss our views on concurrency in the acquisition of weapon systems. Concurrency can be used to expedite the development and production of weapon systems. However, our work on several systems has illustrated that rushing into production before critical tests are successfully completed have resulted in the purchases of systems that do not perform as intended. We believe that the Department of Defense (DOD) can no longer afford to concurrently develop and produce high cost systems without knowing early in the process whether the desired capability can be demonstrated. We also believe that the recent changes in the national security environment mean that we can wait until we better know whether weapon systems work before we commit large sums of money to procure them.

WHAT IS CONCURRENCY?

Concurrency is broadly defined as the overlap between the development and production phases of an acquisition program. More specifically, it means that for a given weapon system, some parts or subsystems are being developed while others are being produced. It also means that some parts or subsystems are being developed and produced at the same time. When subsystems in development are especially important to the overall effectiveness of a weapon system, or are technologically complex, the risks associated with concurrency increase. The growing dependency of weapon systems on software is perhaps the best illustration of these kinds of risks.

From whatever perspective (system or subsystem) one views concurrency, the best way to reduce risk in a system's acquisition is to get early indications, before production, of whether a system will perform as intended. Early operational testing is a key internal control to ensure that decisionmakers

have the best information available on a weapon system's performance to minimize risks of buying costly and ineffective systems. Determining if systems work after production starts can significantly increase the cost of such systems if major problems are discovered as a result of the testing process. Also, you may end up with less than was desired at the outset of the program.

The extent of operational testing before the production decision is generally the way the Congressional Budget Office (CBO), and more recently, DOD have measured the degree of concurrency in major weapons systems. A non-concurrent system, by their measurements, is one in which planned operational testing has occurred before the production decision. And a highly concurrent system is one in which little or no operational testing has occurred before the production decision.

THE RESULTS OF OUR WORK

Deciding to procure numerous, expensive, and concurrent systems over the last decade has created a predicament. Weapon systems currently in development or production are expected to cost over $1 trillion. The growing cost of many of these systems, some with uncertain or unproven capabilities, together with changes in the national security environment has presented us with tough policy choices: to stretchout, reduce or cancel some of these systems will have an economic impact in localities where they are built, but not to do so is to continue costly development of systems that may not be able to perform their missions. These kinds of choices must be avoided in the future.

Over the years, our work has demonstrated the importance of identifying the risks associated with concurrency. We have reviewed programs with planned concurrency as well as those that have become concurrent because production decisions were made prior to the accomplishment of significant operational testing.

HIGHLY CONCURRENT SYSTEMS

Recently the Under Secretary of Defense for Acquisition issued a report that found 6 of 34 major weapon systems to be "highly concurrent" because operational testing began after the initial production decision. Twenty-five other systems had lesser degrees of concurrency, including eleven judged to be "moderately" concurrent. The six are the B-2, the Peacekeeper Rail Garrison, the Seawolf attack submarine (SSN-21), and its

combat system the AN/BSY-2, the C-17A, and the Trident D5 missile.

I would like to briefly summarize some of the problems we have identified concerning 5 of the 6 systems termed highly concurrent by the Under Secretary. In our reports we have discussed the risks associated with producing a system, or part of a system, before it is operationally tested. I would like also to discuss another highly concurrent program--the DDG-51 destroyer--that the Under Secretary did not identify.

In February of this year, I testified before the House Armed Services Committee that it would be prudent to reduce the pace of funding and production for the B-2 until critical performance elements of the aircraft, such as its integrated offensive and defensive avionics, were adequately demonstrated.[1] Under the DOD acquisition plan, 31 B-2 aircraft would be on order and over $48 billion would be appropriated before anyone knows whether this airplane will do its job. As you know, Secretary of Defense Cheney recently announced his intention to buy 75 rather than 132 stealth bombers. Under Secretary Cheney's plan, the fiscal year 1991 buy is reduced from 5 to 2 aircraft and the 1992 buy from 10 to 6 aircraft. As a result, 25 rather than 31 B-2s will be on order before testing is completed. We remain concerned, however, that production of this plane is continuing without adequate assurance that it can perform its mission.

In our December 1989 report on the Rail Garrison for the Peace Keeper missile we stated that at the time the initial production decision was scheduled, no operational test and evaluation of the complete weapon system (including the missiles and rail launch cars) would have been conducted.[2] Additionally, the Air Force plans to purchase about 73 percent of the launch cars before operational testing is completed. Such a large purchase would, in effect, amount to full-rate production without any operational test or evaluation of the complete system. In the same report, we recommended that the Secretary of Defense delay the production start-up decision until the Air Force has conducted some operational test and evaluation of the complete weapon system.

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[1] Strategic Bombers: B-2 Program Status and Current Issues, (GAO/NSIAD-90-120, February 22, 1990).

[2] Rail Garrison Production Decision and Launch Car Acquisition Should be Delayed, (GAO/NSIAD-90-19, December 7, 1989).

In April 1990, we reported that as many as 15 of 29 planned SSN-21's, worth more than $21 billion, are to be on contract or under construction before the first ship is available for operational testing.[3]

The AN/BSY-2 is crucial to the performance of the SSN-21's mission and one of the most technically challenging and complex software development efforts for a submarine which will require up to 800 personnel to develop and integrate about 3.2 million lines of computer code. Timely operational test and evaluation on critical subsystems such as the AN/BSY-2 should be conducted. We reported that the Navy cannot demonstrate the AN/BSY-2 combat system's potential for improved effectiveness over prior systems until it is operationally tested.[4] Such tests are scheduled for two years after the delivery of the first system. Problems encountered during such tests could require redesign and/or configuration changes to SSN-21s delivered and under construction, which could further delay deliveries and increase costs. And this has already occurred.

In our August 1989 report on the C-17 airlift aircraft we showed that concurrent development and low-rate initial production will overlap from 1988 to 1992.[5] Before the scheduled first flight of the development aircraft in 1990, 12 production aircraft were planned to be on contract. By the end of the flight test program, 9 production aircraft were planned to have been delivered, and assembly of the 18th aircraft was scheduled to have begun. We further noted that the Air Force must resolve assembly and avionics development problems and manage the program's concurrent schedule to avoid delays that would increase the likelihood that key milestones would not be met.

The DOD Inspector General report on the C-17A in April 1989 suggested that the low rate initial production was tantamount to a full-rate production decision. As a result, several C-17As would have been produced before operational testing was

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[3]Status of SSN-21 Ship Construction Program, (GAO/NSIAD-90-163, April 19, 1990).

[4]Submarine Combat System: Technical Challenges Confronting Navy's Seawolf AN/BSY-2 Development, (GAO/IMTEC-89-35, March 13, 1989).

[5]C-17 Faces Schedule, Cost, and Performance Challenges, (GAO/NSIAD-89-195, August 18, 1989.

completed. Although Secretary of Defense Cheney recently decided to cut the C-17 aircraft procurement from 210 to 120 transports, we are still concerned over delays in the flight test program and the production of aircraft before completion of initial operational test and evaluation.

And finally in January 1990 we reported that the DDG-51's contractor has experienced problems in designing and constructing the lead ship.[6] Because of these problems and because the Navy has changed the contract's requirements, costs have increased substantially, and the expected delivery schedule has slipped about 17 months from the original estimate.

Although the first follow-on ship is only 1 percent complete, the estimated cost to complete it is already over the ceiling price by 11 percent, according to the contractor, and by 22 percent, according to the Navy. In our report on the DDG-51 program we recommended that the Secretary of Defense delay the contract award for follow-on ships until he could provide assurance as to the development and affordability of the program.

In February, 1990, the Navy awarded contracts for 5 follow-on ships and now has a total of 12 follow-on ships under contract. Furthermore, the Navy could have as many as 17 ships under construction or awarded before the lead ship has finished testing and has been delivered in February 1991.

OTHER GAO WORK

In a report issued in June 1985, we identified the consequences of DOD's decisions to start production on five concurrent systems without having adequately demonstrated whether performance requirements were met in a representative operational environment.[7] For example, with the F/A-18 aircraft, expensive retrofits were required on production models to correct problems identified during operational testing.

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[6]Navy Shipbuilding: Cost and Schedule Problems on the DDG-51 AEGIS Destroyer Program,(NSIAD-90-84, January 17, 1990).

[7]Production of Some Major Weapon Systems Began With Only Limited Operational Test and Evaluation Results, (GAO/NSIAD-85-68, June 19, 1985).

As you recently pointed out Mr. Chairman, the story of the B-1B's defensive avionics subsystem is a "classic" story of the risks associated with concurrency. Production and development started at the same time. The B-1B did not begin operational test and evaluation until 3 years after the October 1981 production decision. And, despite costly attempts to fix its critical avionics subsystem, the plane will not do what it was expected to do.[8]

Today we are issuing a report to the Secretary of Defense on the importance of planning and conducting more timely operational testing.[9] We found that the military services generally are not conducting or planning to conduct operational testing on weapon systems until after production start-up. In our examination of six weapon systems we found that in four cases, planned operational testing lags behind the actual or planned initial production decision by one to three years.

Mr. Chairman, the information in our report raises a question about the wisdom of spending relatively large sums of money on weapon systems before it is determined whether they will work. I doubt that we can afford to continue in this way. And the changing national security environment means we don't have to. Our reports on the problems of concurrent weapon systems have led me to conclude that the most crucial problem and greatest risk is in the development of the relevant software. Software development will determine the pace of development and ultimately the production of weapons like ships and planes. If the software doesn't work, then the weapon system as a whole is not going to work the way it should. This means that we have to have greater assurance that these highly complex subsystems which are crucial to overall system performance will do what they are supposed to do before committing large sums of money to procure the overall system. If we don't structure acquisitions this way, we risk having systems like B-1Bs sitting on the runway unable to do the job they were designed to do. I think you would agree that we can ill afford a repetition of that story.

This concludes my prepared statement, Mr. Chairman. I will be happy to answer any questions you may have.

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[8] Strategic Bombers: B-1B Cost and Performance Remain Uncertain, (GAO/NSIAD-89-55, February 3, 1989).

[9] DOD Needs to Plan and Conduct More Timely Operational Tests and Evaluations, (GAO/NSIAD-90-107, May 17, 1990).

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United States General Accounting Office

GAO

Report to the Secretary of Defense

May 1990

WEAPONS TESTING

DOD Needs to Plan and Conduct More Timely Operational Tests and Evaluation

GAO/NSIAD-90-107

GAO

United States
General Accounting Office
Washington, D.C. 20548

National Security and
International Affairs Division

B-222886

May 17, 1990

The Honorable Richard B. Cheney
The Secretary of Defense

Dear Mr. Secretary:

The Congress continues to express concern that weapon systems have begun production without operational test and evaluation (OT&E). OT&E conducted before a system's "production start-up,"[1] is a key internal control to ensure that decisionmakers have the best information available on a weapon system's performance to minimize risks of procuring costly and ineffective systems.

We identified many perceived barriers to earlier OT&E. Several had been previously reported by us and other agencies, and others were identified during discussions with officials in the Office of the Secretary of Defense (OSD) and the military services. This report provides the results of our analysis of the feasibility of overcoming three major barriers that we believe will allow OT&E before production start-up. The three barriers were

- lack of prototypes for testing early,
- starting production before development is completed (concurrency), and
- the need to start production to obtain OT&E test articles.[2]

We recognize that other factors, such as cost, urgency, and the state of advanced technology may sometimes preclude OT&E before production start-up. However, making OT&E results available before production start-up could help preclude cost growth, schedule slippages, and performance shortfalls that frequently arise during the later phases of a weapon system's development.

Several events make the present systems acquisition environment very receptive to earlier OT&E. These include (1) recent DOD reports that espouse the "aggressive use of prototyping and testing to identify and remedy problems before production," (2) DOD's revisions to acquisition and test and evaluation regulations currently underway, (3) the

[1]In this report, we use the term "production start-up to refer to that point in the acquisition process at which a weapon system or its subsystems begin production. "Low-rate initial production [LRIP]," "limited production," and "pilot production" are terms that the Department of Defense (DOD) uses to refer to production start-up.

[2]Test articles are the units of a weapon system that are used to test a weapon's performance.

appointment of a new Director of OT&E, (4) the need to make critical trade-off decisions in systems' acquisition, and (5) DOD's agreement, in response to our May 1989 report discussed on page 4, to reemphasize the need for OT&E as early as possible in the acquisition cycle.

Results in Brief

Several DOD and congressional initiatives to reduce risks in system acquisition and many reports have highlighted weapon system performance and testing shortfalls. Our review of six current systems plus other recent work shows that DOD has made little progress in assuring that earlier OT&E is planned and conducted. The military services generally are not conducting or planning to conduct OT&E on weapon systems until after production start-up.

In our view, the barriers we examined do not preclude earlier OT&E. With proper planning, an operational test can and should be accomplished before production start-up.[3] We found that although some prototypes have been used for development test and evaluation, the military services generally are not planning to use them for OT&E before production start-up. We believe, however, that with adequate planning, prototypes can be designated for OT&E. We also found that concurrency does not preclude earlier OT&E, if such testing is properly planned. Moreover, because test articles are available during the full-scale development phase of the acquisition process, it is generally not necessary to begin production to provide them for OT&E.

Background

DOD budgets over $100 billion annually for research, development, test, and evaluation and for production of major weapon systems. In view of such large sums, decisionmakers need the best information possible on weapon systems' operational performance and risks associated with new technology before approving production start-up. OT&E is intended to provide an independent analysis of a weapon system's performance against operational requirements and the system's reliability and ability to be supported in the field.

[3]OT&E before production start-up may be in addition to later OT&E conducted to support a full-rate production decision (often referred to as the "final exam"). OT&E before production start-up (1) may be on a system or critical subsystem prototype, (2) might not meet all requirements for effectiveness or suitability, and (3) should not be viewed as a "pass/fail" test but can serve as an input to the design process to ensure problems are addressed before a system begins production.

The services are statutorily required to conduct OT&E before making a full-rate production decision. DOD's current test and evaluation policy[4] not only reflects this, but also states that "OT&E shall be structured to provide inputs at each decision point, including major milestones."[5] Yet, DOD's policy also permits production start-up before OT&E is conducted.

Studies of the DOD acquisition process have recommended earlier operational testing, using prototypes, before production start-up. In 1986, the President's Blue Ribbon Commission on Defense Management (the Packard Commission) recommended that operational testing of prototype systems begin early in advanced development and continue through full-scale development. DOD's recent Defense Management Review initiatives, as reflected in the July 1989 DOD Report to the President on Defense Management and the January 1990 DOD Annual Report to the President and the Congress, support implementation of the Packard Commission recommendations, including aggressive use of prototyping and testing to identify and remedy problems "well prior to commencement of high rate production."

With Proper Planning, OT&E Before Production Start-Up Is Feasible

Over the years, we have reported on weapon system performance shortcomings and the lack of adequate OT&E. (See app. III.) Our work on six current systems plus our other recent work (see apps. I and II) has shown that OT&E is not being conducted until production start-up has been approved. We understand that the military services want to move weapon systems into production as quickly as possible in order to reduce the likelihood of them being canceled—a "build now and fix problems later" attitude.

We believe that OT&E results have not been available to support decisions to start production because of the failure of the military services to plan for earlier OT&E and incorporate it into program acquisition strategies. The barriers often cited for OT&E not being adequately planned for or conducted before production start-up has been approved include (1) prototypes not available for testing early, (2) concurrency, and (3) the need to start production to obtain OT&E test articles. We believe that these barriers do not preclude OT&E prior to production start-up.

[4]In DOD Directive 5000.3, Test and Evaluation, dated March 12, 1986.

[5]The milestones are: I (to start the concept demonstration/ validation phase), II (to enter the full-scale development phase), and III (to enter the production phase).

In a recent report on test and evaluation,[6] we discussed the manner in which DOD used early operational assessments. Early operational assessments provide input to decisionmakers on whether a weapon system is ready for the "final exam OT&E" and whether operational shortfalls are being identified and corrected early in the development process. These assessments, which usually rely on development test data, are being used to support decisions for full-scale development and production start-up. We reported in May 1989 that DOD's reliance on early operational assessments when equipment is unavailable for OT&E is a step forward in filling the information void, but should not be a substitute for OT&E. However, we support DOD's current policy that calls for OT&E at each decision point, including major milestones, and believe that more emphasis should be given to conducting OT&E before production start-up. This OT&E should not be viewed as a pass/fail test; it would function as an input to decisionmakers to ensure that problems are identified before a system begins production.

Prototypes Are Being Built but Not Being Used for OT&E

Our review has shown that even though prototypes have been built or are under construction for some systems, the services generally do not plan to use them to conduct OT&E. For example, prototypes were built or under construction for five of the six systems we reviewed (the Air Force's Advanced Tactical Fighter and Short Range Attack Missile-II, the Army's Non-Line-Of-Sight Missile, and the Navy's Long-Range Air Anti-Submarine Warfare Capability Aircraft and Fixed Distributed System). However, only the Navy used or has plans to use its prototypes in OT&E before production start-up. This is because only the Navy has regulations calling for OT&E before production start-up. The other services' regulations only require OT&E to support full-rate production decisions, although some field testing or experimentation may be conducted.

The Navy used the Fixed Distributed System prototype to conduct OT&E before production start-up. Although the Fixed Distributed System was not a mature system with a prototype available for only one of its two major subsystems, the Navy considered the OT&E results to be useful. This OT&E was conducted before full-scale development.

We recognize that not all systems can or should have prototypes. However, OT&E conducted before the decision to begin production could be performed on critical subsystems if it is not feasible to have a prototype

[6]Navy Weapons Testing: Defense Policy on Early Operational Testing (GAO/NSIAD-89-98, May 8, 1989)

of the full system. The controlling factors would be system/subsystem maturity and the expected risk.

For earlier OT&E to be conducted, acquisition strategy from the beginning should require that prototypes be built and operationally tested before the decision to begin production is made. This is the responsibility of acquisition managers, not operational testers.

Concurrency Does Not Preclude OT&E Before Production

As we have previously reported,[7] concurrency can be an effective technique for expediting acquisitions if it is well planned and controlled; however, the practice increases the risk that systems will be produced with major flaws. OT&E before production start-up is an especially important safeguard against the increased risks of concurrent programs.

On April 17, 1990, DOD reported to the Congress that its policy allows varying degrees of concurrency, but mandates the completion of testing and the assessments of results before the production phase.[8] Proposed concurrency guidelines call for the aggressive use of prototypes and testing to identify problems well before production. Under normal circumstances, the low-rate initial production decision should be supported by the completion of some early OT&E.

Most DOD officials we talked with concerning earlier OT&E believe that it is feasible to conduct OT&E before most production start-up decisions. However, our discussions identified several factors that need to be considered when OT&E is to be conducted before the production start-up decision:

- OT&E must be planned as part of the system's acquisition strategy.
- Systems tested early may not meet all requirements for suitability (i.e., reliability, availability, and maintainability).
- Decisionmakers need to be told that OT&E earlier in the acquisition process should not be viewed as pass/fail; it should be viewed as a way to identify system performance shortfalls that need to be corrected before production begins.

[7] Production of Some Major Weapon Systems Began With Only Limited Operational Test and Evaluation Results (GAO/NSIAD-86-86, June 19, 1986).

[8] As requested by section 801 of the National Defense Authorization Act for Fiscal Years 1990 and 1991, DOD was to report on the risk associated with concurrency in major acquisition programs.

We believe that these factors are also important to systems that are not categorized as concurrent programs.

Production Start-Up Is Generally Not Necessary for OT&E Test Articles

Production start-up is traditionally considered as a means by which test articles are acquired for OT&E. The military services usually use the term low-rate initial production to describe this. However, the Congress and DOD's Inspector General have expressed concern that the services' use of low-rate initial production has sometimes resulted in de facto full-rate production before any OT&E is conducted. To try to control the misuse of low-rate initial production, in November 1989, the Congress passed legislation requiring an appropriate DOD official to specify the quantities of test articles needed for OT&E in major programs to decrease the number of items produced before OT&E was conducted.

We found that production start-up is generally not necessary to produce OT&E test articles. The DOD budget manual and the military services' regulations require or at least allow OT&E test articles to come out of full-scale development. In addition, we identified many systems currently under development or in production where the services plan to use or have used OT&E test articles produced from full-scale development. (See app. I.) In only one of the six systems we reviewed will the OT&E test articles come from a low-rate initial production decision. In that case, according to the Deputy Program Manager, the Line-of Sight-Forward-Heavy was already in production for an allied country before the U.S. Army bought it.

Conclusions and Recommendations

Weapon systems are starting production before OT&E is conducted because DOD is not giving full effect to its policy for OT&E at each decision point, including major milestones. On numerous occasions we have reported the negative effects of systems that have been produced without adequate OT&E. The barriers to earlier OT&E can be overcome with better planning.

To strengthen DOD's recent reaffirmation of the proper role of OT&E as a key internal control in the systems acquisition process made through the Defense Management Review initiatives, we recommend you ensure that DOD acquisition and testing directives currently under revision

- clearly establish the need for OT&E before production start-up;

- define when OT&E must occur and when it may be appropriate for decisionmakers to rely on operational assessments in lieu of OT&E for production start-up decisions, as previously recommended in our May 1989 report;
- require the services to plan for and conduct earlier OT&E; and
- ensure that acquisition strategies for major weapon systems require system or subsystem prototypes be built where practical and that these prototypes be operationally tested before production start-up.

Scope and Methodology

To determine whether perceived barriers precluded early OT&E, we performed work at test and program oversight offices within OSD, military service headquarters, and operational test agencies, and applicable program executive and management offices. On the basis of a judgment sample drawn with direct OSD and service input, we examined six current systems and reviewed our prior and recently reported work on additional systems. (See apps. I, II, and III.) We also performed an extensive literature search and review of available documents on defense acquisition, testing, prototyping, and concurrency.

We did not obtain written agency comments on this report. However, we discussed the information in this report with DOD officials and incorporated their comments as appropriate. DOD officials were very receptive to our findings and conclusions and believed that systems acquisition changes would be helpful to the OT&E community. They pointed out that Defense Management Review initiatives and the Under Secretary of Defense for Acquisition are stressing the need for earlier OT&E.

We conducted our work from August 1989 through February 1990 in accordance with generally accepted government auditing standards.

As you know, 31 U.S.C. 720 requires the head of a federal agency to submit a written statement on actions taken on our recommendations to the House Committee on Government Operations and the Senate Committee on Governmental Affairs not later than 60 days after the date of the report. A written statement must also be submitted to the House and Senate Committees on Appropriations with the agency's first request for appropriations made more than 60 days after the date of the report.

We are sending copies of this report to the Chairmen, House Committees on Government Operations and on Armed Services and Senate Committees on Governmental Affairs and on Armed Services; the Secretaries of

the Army, Air Force, and Navy; the Director, OT&E; the Deputy Director for Defense Research and Engineering/Test and Evaluation; the Director, Office of Management and Budget; and the military service operational test agencies. We will also make copies available to other interested parties upon request.

This report was prepared under the direction of Mr. Paul F. Math, Director, Research, Development, Acquisition, and Procurement Issues, who may be reached on (202) 275-8400 if you or your staff have questions concerning the report. Major contributors to this report are listed in appendix IV.

Sincerely yours,

Neal P. Curtin for

Frank C. Conahan
Assistant Comptroller General

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Abbreviations

DOD	Department of Defense
OSD	Office of the Secretary of Defense
OT&E	operational test and evaluation
RWR	radar warning receivers

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Appendix I

OT&E Schedules for Six Weapon Systems We Reviewed

Service/system	Fiscal years: Program start	Planned OT&E	Initial production decision	Source of OT&E test articles[a]
Army				
Line-of Sight-Forward-Heavy (Air Defense Anti-Tank System)	1987	1990	1987[b]	Low-rate initial production
Non-Line-of-Sight[c] (Fiber Optic Guided Missile)	1987	1994	1991[b]	Full-scale development
Air Force				
Advanced Tactical Fighter[c]	1981	1997	1994[b]	Full-scale development
Short-Range Attack Missile-II[c]	1985	1992	1991[b]	Full-scale development
Navy				
Long-Range Anti-Submarine Warfare Advanced Capability Aircraft[c] (P-7A)	1986	1992	1992[b]	Full-scale development
Fixed Distributed System[c]	1984	1988[d]	1989[b]	Demonstration/validation

[a]Without extensively reviewing additional systems, we noted that several others used full-scale development items for producing OT&E test articles. These were MK-46 Advanced Capability Torpedo, Extremely Low Frequency Communication System, AN-SQS-53C Long-Range Sonar, and Airborne Self-Protection Jammer.

[b]For low-rate initial production.

[c]Prototypes have been built or planned for these systems. However, the services are not planning to use the Non-Line-of-Sight Missile, Short-Range Attack Missile-II, and Advanced Tactical Fighter prototypes for OT&E.

[d]An OT&E, such as the one described in footnote 3 on page 2, was successfully conducted.

Appendix II

Examples of Systems Noted in Our Recent Reports That Did Not Have OT&E Planned Before Production Start-Up

Abrams Tank: Block II Modifications Not Ready for Production (NSIAD-90-57, Feb. 28, 1990)

- Army will commit $166.4 million to the M1A2 tank program before development prototype testing is begun.
- OSD had not approved the Army's test and evaluation master plan as of August 1989 because it was concerned that the Army had not sufficiently planned live-fire testing and OT&E, which needs to be completed and evaluated before the production decision is made in August 1991.

Strategic Bombers: B-2 Program Status and Current Issues (NSIAD-90-120, Feb. 22, 1990)

- B-2 aircraft acquisition strategy includes ordering a large number of planes before the necessary testing to demonstrate that the B-2 can perform its mission is completed.

ICBM Modernization: Rail Garrison Production Decision and Launch Car Acquisition Should Be Delayed (NSIAD 90-19, Dec. 7, 1989)

- No OT&E of the complete weapon system (missiles and rail cars) will have been conducted prior to the initial production decision.
- We recommended that the Secretary of Defense delay the April 1990 initial Rail Garrison production decision until the Air Force has conducted some OT&E of the complete system.

Navy Weapons Testing: Defense Policy on Early Operational Testing (NSIAD-89-98, May 8, 1989)

The following seven programs were authorized for low-rate initial production with no OT&E:

- ALQ-165 Airborne Self-Protection Jammer.
- SQS-53C Sonar.
- E-6A Aircraft.
- MK-45 Capsule Launching System.
- Ocean Surveillance Information System Baseline Upgrade.
- TB-23 Accelerated Thinline Towed Array.
- AN/BSY-2 Submarine Combat System.

Navy/Air Force Still Developing Separate, Costly Radar Warning Receivers (NSIAD-87-167, July 1, 1987)

- Five radar warning receivers (RWR) started production before OT&E was completed.
- Starting production before adequately testing the systems has resulted in the purchase of equipment that cannot be used for its intended purpose, production of RWR that were placed in storage rather than installed, and deployment of RWR judged operationally unsuitable to U.S. combat forces by testing officials.

Appendix III

Examples of Reports Illustrating Where Production Decisions Were Made Before OT&E Was Started or Completed

Operational Test and Evaluation Can Contribute More to Decisionmaking (NSIAD-87-57, Dec. 23, 1986)

Our analysis showed 41 cases where production was approved before OT&E was started or completed. Thirty-one of the 41 cases were identified in our reports and summarized in this December 23, 1986, report. The 31 reports are listed below.

1. Adverse Effects of Large-Scale Production of Major Weapons Before Completion of Development and Testing (B-163058, Nov. 19, 1970)

2. The Importance of Testing and Evaluation in the Acquisition Process for Major Weapon Systems (B-163058, Aug. 7, 1972)

3. Review of the Adequacy of Department of Defense Test Resources (PSAD-75-84, Apr. 30, 1975)

4. Effectiveness of Testing of Selected Major Weapon Systems (PSAD-75-74, June 4, 1975)

5. Need for Additional Test and Evaluation on the Major Caliber Lightweight Gun (PSAD-77-4, Nov. 5, 1976)

6. Navy Operational Test and Evaluation - A Valuable Tool Not Fully Utilized (PSAD-78-77, Mar. 29, 1978)

7. Operational Testing of Air Force Systems Requires Several Improvements (PSAD-78-102, June 2, 1978)

8. Department of Defense's Conduct of Operational Test and Evaluation of Foreign Built Weapon Systems (PSAD-79-131, July 25, 1978)

9. Practices and Procedures for Follow-On Operational Testing and Evaluation of Weapon Systems by the Military Services (PSAD-79-1, Oct. 19, 1978)

10. Army Operational Test and Evaluation Needs Improvements (PSAD-80-2, Nov. 13, 1979)

11. M1 Tank's Reliability is Still Uncertain (PSAD-80-20, Jan. 29, 1980)

12. F/A-18 Naval Strike Fighter: Its Effectiveness Is Uncertain (PSAD-80-24, Feb. 14, 1980)

13. Cruise Missiles: Status and Issues as They Near Production (PSAD-80-19, Feb. 28, 1980)

14. Future Procurements of Army's Copperhead Projectile Should Be Contingent on Improvements in Performance and Reliability (PSAD-81-4, Nov. 13, 1980)

15. Review of the High Speed Anti-Radiation Missile Program (MASAD-81-7, Feb. 28, 1981)

16. Some Land Attack Cruise Missiles Acquisition Programs Need to Be Slowed Down (MASAD-81-9, Feb. 28, 1981)

17. Most Critical Testing Still Lies Ahead for Missiles in Theater Nuclear Modernization (MASAD-81-15, Mar. 2, 1981)

18. The Army's Advance Attack Helicopter Is Not Ready for Production (MASAD-82-8, Dec. 1, 1981)

19. Air Launched Cruise Missile Shows Promise but Problems Could Result in Operational Limitations (C-MASAD-82-13, Feb. 26, 1982)

20. Progress of the Light Armored Vehicle Program Should Be Closely Monitored (MASAD-82-41, Aug. 10, 1982)

21. Results of Production Testing Should Be Considered Before Increasing Patriot's Production (MASAD-83-7, Jan. 26, 1983)

22. Acquisition of the Over-The-Horizon Backscatter Radar System Should Be Reevaluated (MASAD-83-14, Mar. 15, 1983)

23. The B-1 Bomber Program - A New Start (MASAD-83-21, Apr. 13, 1983)

24. Better Planning and Management of Threat Simulators and Aerial Targets Is Crucial to Effective Weapon Systems Performance (MASAD-83-27, June 23, 1983)

25. Air Force and Navy Trainer Aircraft Acquisition Programs (MASAD-83-22, July 5, 1983)

26. Results of Forthcoming Critical Tests Are Needed to Confirm Army Remotely Piloted Vehicle's Readiness for Production (NSIAD-84-72, Apr. 4, 1984)

27. Status of the Peacekeeper (MX) Weapon System (NSIAD-84-112, May 9, 1984)

28. Army's Decision to Begin Production of the High Mobility Multipurpose Wheeled Vehicle Was Premature (NSIAD-84-136, June 12, 1984)

29. Army Has the Opportunity to Recompete DAS3 Purchases and Improve Automated Battlefield Support (IMTEC-84-20, Sept. 28, 1984)

30. Production of Some Major Weapon Systems Began With Only Limited Operational Test and Evaluation Results (NSIAD-85-68, June 19, 1985)

31. Evaluation of Army's Mobile Subscriber Equipment Program (NSIAD-85-117, July 16, 1985)

Appendix IV

Major Contributors to This Report

National Security and International Affairs Division, Washington, D.C.	Michael E. Motley, Associate Director Lester C. Farrington, Assistant Director Maureen Machisak-Herndon, Evaluator
Norfolk Regional Office	Fred Harrison, Regional Management Representative Leslie Gregor, Evaluator-in-Charge Clifton Spruill, Site Senior Julie Chapman, Evaluator Jim Marshall, Advisor
Denver Regional Office	Ted Baird, Regional Management Representative Ernest Beran, Regional Assignment Manager

DOD REPORT ON CONCURRENCY

Chairman NUNN. Mr. Conahan, last year Congress directed the Defense Department to develop an overall policy on concurrency in the acquisition process. Has the GAO had a chance to evaluate the Department of Defense report?

Mr. CONAHAN. We have looked at the report, Mr. Chairman, and have some observations. There is not much new in that report. Most of the policies and procedures enunciated in that report have been requirements of the Department for quite some time. If you take a look at the risk assessment and the way they direct risk to be analyzed in the future, it is not much different from the past. I might say it makes some sense to go about it that way.

The problem has been in implementation. Not only with respect to concurrency and assessment of risk but in the whole procurement area we find the problem being one of compliance rather than the absence of policies and procedures.

I would take note that in the report that you referred to, none of the systems that are designated as being highly concurrent are shown as having high risk. That is kind of difficult to accept. One of the systems is the SSN-21 with its advanced combat system. That is going to require an awful lot of effort, of things that we have not done before; software has to be developed that has not been developed before. It would seem that the SSN-21 is a high risk system by almost anyone's definition. But, according to that report, none of the systems are high risk.

Another thing that is somewhat troublesome about the report is that they talk about the need for operational assessments before low-rate initial production and operational testing before full production. Again, I could not argue in principle with that. But when you consider that the rail cars for the Peacekeeper, the rail launch Peacekeeper, are now in low-rate production, we will have 73 percent of that total buy under low-rate production before operational testing is completed. It permits the Department of Defense to do a lot of things there that they have done in the past which we think is inappropriate.

Chairman NUNN. Again, are those MX references before or after Secretary Cheney's adjustments?

Mr. CONAHAN. Before.

Chairman NUNN. Could you update them for the record?

Mr. CONAHAN. Yes, sir.

[The information follows:]

According to the Department of Defense, things haven't changed; 73 percent of the total rail car buy will be produced before operational testing is completed.

EXCESSIVE OR RISKY CONCURRENCY

Chairman NUNN. Has the General Accounting Office determined a general guideline as to when concurrency becomes excessive and too risky?

Mr. CONAHAN. I think it needs to be taken on a case-by-case basis. I think there are two things here. You have to take a look at the kind of system you are talking about. If you are talking about a satellite or a ship program, or indeed, some of our more expensive

strategic systems where you are going to have fewer end items, that is one thing. But when you have the kind of system where you are going to have hundreds or perhaps thousands, here we are talking about, perhaps tactical aircraft or, indeed, going beyond that, missiles, that is something else. I think that those programs have to be looked at over that range, again, on a case-by-case basis.

Certainly, on satellites and some ship programs you are going to have a high degree of concurrency and there is not much you can do about that. But I think that you do have some options as you go out of that range where you are going to have many. So, concurrency is a case-by-case determination.

POLICY OPTIONS AFTER PRODUCTION BEGINS

Chairman NUNN. Frequently we are told that while testing shows problems with a program, it is almost always cheaper, according to the Department of Defense, to fix the problems than it is to stop the program and start over with an alternative. What do you do? What does Congress do? What are our policy options once we have seen the procurement start and then you run into a problem?

Mr. CONAHAN. Let me say that the responsibility for managing weapon systems and identifying problems, Mr. Chairman, in my view, rests with the program managers, with the managers over in the Department of Defense. By the time a problem comes to the attention of Congress it seems to me it is almost out of hand. So, what we need to do is to assure that the program managers are complying with the guidelines that are there before them and that, indeed, they do the kind of developmental testing that is required during the developmental stage, that they do the kind of operational assessments early on and then, indeed, that they do the kind of operational testing that is required before they go forward with the big production decisions.

Now, it is possible to do operational testing fairly early on in a program. You do not have to wait until you are just about ready to go into full production. In some of these programs you have articles that you can test before you begin production. So, I think it is just compliance with the guidelines that are out there and holding people accountable for doing it.

RAIL GARRISON MX CONCURRENCY

Chairman NUNN. You stated in your testimony the current plan for the Rail Garrison MX is highly concurrent because 73 percent of the program will have been committed before initial operational testing is completed. Is this an excessively risky acquisition profile, in the GAO's judgment?

Mr. CONAHAN. I think that there are questions there that need to be answered. First off, we have not tested as to whether the rail car can withstand the blast. We have not tested as to whether the rail car can again become mobile after the blast. We have not tested as to whether the commercial rail beds can handle that kind of activity. We have not tested the reliability of the missile itself after it has been out on the rail car for an extended period of time rolling around the countryside. To go forward with 73 percent of

the program when those fundamental questions remain unanswered, to me, makes it a highly risky program.

SSN–21 CONCURRENCY

Chairman NUNN. On the SSN–21 submarine, you state in your testimony the Navy's current plans would have us commit over $21 billion before the first ship is available for operational testing. In your view, is this an excessively risky acquisition profile?

Mr. CONAHAN. On the SSN–21, it is one of those close calls, in my view, and maybe in that kind of a program we need to begin thinking a little bit differently about how we procure some of these systems. Certainly, the hull does not have the same kind of challenge as the combat system has, but the combat system for that program has great challenges.

We started out in the early 1980s developing a combat system for the new class of submarine, and we projected what we wanted at that time and found out that we really could not do that. So then we broke it down into two programs. We said we will have a combat system which we will develop for the improved 688 class, and then we will have a more advanced combat system for the new SSN-21 that was going to follow that.

We never really got the kind of capability we originally wanted for the BSY–1 that went into the improved class of the 688. It does not have the sensor or data processing capacities that we wanted for that submarine, and now we are going to take a quantum leap with respect to the combat system for the SSN–21.

The number of lines of code versus what we know how to handle right now has jumped tremendously. The contractor is having difficulty getting programmers to work on this system. Most of the programming has to be done in the ADA language, which is a Department of Defense-mandated language. They are having trouble getting those people. So, I think there are big questions there.

It seems to me that what we need to do in looking at strategy on those kinds of new complex systems is maybe to do a little more development of the truly unknowns before we commit an awful lot of money on the things that we know how to do reasonably well.

C–17 CONCURRENCY

Chairman NUNN. Regarding the C–17 program, Secretary Cheney recently reduced the budget request for the C–17 in fiscal year 1991. Does this effectively solve the concurrency problem you cite in the C–17 program, or does the program still have too much concurrency?

Mr. CONAHAN. I have not seen the final rework of that program, but in terms of the schedule for first flight and when operational test and evaluation is to be completed, I think the problems remain. There will still be a number of production aircraft under contract before that operational testing is done.

Chairman NUNN. Thank you. Senator Cohen.

PROTECTION OF CONFIDENTIAL INFORMATION

Senator COHEN. Thank you, Mr. Chairman. Mr. Conahan, let me say that the GAO has been very helpful, certainly to the committees that I have served on in the past, and I think it continues to be helpful, but I must say that I am concerned about some of the procedure and process that have been utilized in more recent times.

Senator Glenn, who chairs the Governmental Affairs Committee, held a hearing dealing with the GAO's reports, and I recall you were testifying at that particular hearing dealing with the Air Force, and it was represented in one of your "draft reports" that the Air Force had, in fact, understated the cost of the B-1B, as I recall, to Congress by some $7 billion.

That, in fact, was an erroneous statement, in my judgment. It was a confusing report in that the internal accounting procedures by the Air Force may have been deficient, but by no means did the Air Force ever understate the cost to Congress to the degree that was stated in your report.

As a matter of fact, the Washington Post, as I recall, said the Air Force had misled Congress, and one major television network said the Air Force had lied to Congress, all as a result of a draft report which somehow was mysteriously leaked to the press and I must say that is disturbing.

I find it also disturbing, Mr. Chairman—let me get a little bit parochial here—because there has been an investigation under the direction of one of the House committees into the DDG-51 program and selective reports have been leaked to the press on a piece-meal basis. I have complained publicly about that, and I would reiterate it again here today.

It seems to me that the GAO has an obligation, obviously, to serve Members of Congress who request information, but there ought to be a process whereby confidential information is protected and not turned over to Congress so that it can be leaked before reports are completed.

I have in my hand a letter from the Special Assistant to the Comptroller General and in it he indicated that Bath Iron Works, by way of example, has agreed to turn over all information to the GAO. BIW requested that the documents and records, confidential in nature to be sure, not be turned over to outside sources, meaning Congress, until the GAO completed its investigation. And then the Special Assistant to the Comptroller states, as you are aware, "our office generally is obligated to provide briefings and information to Members of Congress at their request," which sounds like you are simply under an obligation to do that. What you failed to point out is that the GAO has some 17 members assigned to that particular subcommittee staff, and it seems to be an in-house operation, and I do not think the public policy is being well served by that process.

I do not think that any contractor is above investigation or reproach or criticism, or indeed sanction, but we ought to have some kind of process or procedure which provides for the protection of information until such time as a completed report has been provided.

DELIVERY SCHEDULE OF DDG–51

That is by way of preface to the statement I find, Mr. Conahan, in this particular report. You indicate that as many as 17 follow ships in the Aegis destroyer program could be under construction or awarded before the DDG–51 has been delivered, and I find that somewhat misleading. Ships under contract and ships under construction are two very different things. Would you tell me how many ships could be under construction by the time the first DDG–51 is delivered in February of 1991?

Mr. CONAHAN. Something on the order of seven.

Senator COHEN. It is a far cry from 17, but let me ask you specifically. You think there will be seven ships under construction by 1991. According to the information I have, only four follow ships will have commenced fabrication, only three of those four will have reached keel laying, and none of the follow ships at either yard will have passed the launch stage of production.

Not one of the recently awarded fiscal year 1990 destroyers will even commence fabrication until 5 months after the scheduled delivery of the DDG–51. So I think we ought to have some clarification of where you come up with a figure of seven being under construction, and certainly by merging the two into awarded or under construction, 17 is a misleading characterization of it.

Mr. CONAHAN. I would like to provide that information for the record, Senator, because I think that construction funds will be spent at that time.

[The information follows:]

By February 1991, when the lead ship is scheduled for delivery, 5 of 17 follow-on ships will have already started fabrication and 2 more would start within 3 months. In addition, over 50 percent of the material for the ships awarded in 1989 will have been bought. Also, for the ships awarded this year, class standard equipment costing about $50 million would probably have been bought.

Senator COHEN. Well, we are talking "under construction." We will find out exactly what the facts are there. Second, I think that the statement leaves the impression that production schedules for all 17 destroyers authorized to date by this committee significantly overlap, and that clearly is not the case. There is a sequence; the constructions do not overlap excessively. There is a significant spread between the constructions of the first, the second, the third, and so forth.

Mr. Conahan, the Under Secretary of Defense for Acquisition recently provided Congress a report on concurrency risks in major defense programs, and he listed those that have a high degree of concurrency between development and production; the DDG–51 does not fall in that category.

I would like to have you submit for the record a relative analysis of the risk factors involved in the Trident D–5 missile, the AN BSY–2 combat system, the B–2 bomber, the C–17, the MX Rail Garrison, and the SSN–21 in terms of whether you think that the DDG–51 falls in the same category.

And also there is nothing in your report that addresses the impact of halting additional procurements and then restarting the process with a year or 2 in between. I would like to have your analysis of the impact on Navy cost projections, shipbuilding efficiency,

skilled work force retention, and the health of a specialized supplier base of introducing a 1 or 2 year delay, as you recommend in your report. I do not find any of that in your report, and I think that would be very helpful. My time has expired.

[The information follows:]

Because the development of the DDG–51 is much further along, GAO does not put it in the same high risk concurrency category as the other systems.

(NOTE: Following is a quote from the transcript of a hearing a week later where Senator Cohen is questioning GAO employee Marty Ferber and makes reference to Frank Conahan having answered that question during the hearing rather than having to submit it for the record.)

"Senator COHEN. Mr. Ferber, last Thursday, your superior, Frank Conahan, came before the full committee. He testified on the issue of concurrency risk in major defense programs. He indicated at that time, compared to programs like the B–2, the C–17, the MX Rail Garrison, and the SSN–21, the DDG–51 destroyer did not rank in the same category of high risk concurrency. You would agree with that I assume.

Mr. FERBER. Yes."

ACTUAL COST OF B–1 PROGRAM

Mr. CONAHAN. Mr. Chairman, may I make some comment on some of the matters that were just covered by the Senator?

Chairman NUNN. Yes, of course.

Mr. CONAHAN. First, I think you will find that there is a substantial difference between the SAR on the B–1 and the actual cost of the B–1 program. The last SAR, by the way, was as of December 31, 1989, and we do not have one right now.

Senator COHEN. In the report that was filed with Congress, there was not a substantial difference. As a matter of fact, as I recall, you indicated in your report that the recommendation of the internal accounting procedures of the Air Force was $14 billion, when in fact it was $21.7 billion or $21.8 billion. What the Air Force submitted to Congress was about $300,000 or so off.

Mr. CONAHAN. I think the SAR report will show a baseline cost of about $20.4 billion with a then-year cost of about $28 billion, and I think that the then-year cost is up to about $32.5 billion right now.

Senator COHEN. We will go back to the hearing. I think you will find that there is a substantial difference in that regard.

GAO EMPLOYEES ASSIGNED TO CONGRESSIONAL OFFICES

Mr. CONAHAN. Insofar as the assignment of our staff to committees is concerned, there is legislation that underlies our requirements in that regard, and when we are requested to assign our people to committees we are obliged by the law to comply with that. And I quite agree with you, by the way, that leaks of information are inappropriate. We deplore leaks of that sort of information. We try our very best to protect all information given to us by both the executive agencies and contractors as we do our work until such time as we can give a complete airing of that information, together with agency comments, where appropriate. We have no control over the use of information developed by people who are assigned to committees in that they are under the supervision and direction of the committee chairmen.

Senator COHEN. In other words, once a GAO employee is designated or detailed to a congressional committee, that is as far as your jurisdiction goes, that individual can start calling up local press to see how press reports are playing in the local media?

Mr. CONAHAN. That individual is under the direction and supervision of the chairman, yes, sir.

Senator COHEN. There have to be some changes in that, Mr. Chairman. I think the process is getting out of hand.

Mr. CONAHAN. We would, I think, be quite willing to work with you to see if some changes might not be appropriate.

Chairman NUNN. Thank you, Senator Cohen. I certainly agree with you that it is disturbing when information leaks out from whatever source. I do not know how you cure it around this town.

Senator COHEN. If I could just point out, this particular contractor, Bath Iron Works, has turned over information, volumes of information, much of it confidential, and it has ended up in the newspapers; we have as many as 17 GAO employees now assigned to a particular staff, and one of those staff members has been calling the press requesting anonymity and then inquiring as to how the story is playing back home. I find that to be a distortion and a debasement of the process; frankly, I think that I am considering what kind of legislation can be proposed to have penalties imposed on staff members, be they congressional committee staff members or GAO staff members assigned temporarily to serve congressional investigation committees.

Chairman NUNN. Mr. Conahan, I would assume that if it comes to your attention that a GAO employee, even working for a committee, has engaged in that kind of conduct, you would have serious questions about his future with the GAO, would you not?

Mr. CONAHAN. Certainly, Mr. Chairman. If that conduct was inappropriate, we would take him to task for it, whether he was working here on the Hill or back in our own offices.

Chairman NUNN. Thank you. Senator Glenn.

MATURITY MATRIX

Senator GLENN. Thank you, Mr. Chairman. One of the ways set up on the B–2 program to help control some of the difficulties of concurrency, which were ridiculous on the B–2, I thought, and the reason we worked very hard last year to put in some of the hurdles, as we called them, I worked with some of your people here, as a matter of fact on that, but along with that was this maturity matrix which was put in. I guess I would ask your opinion of how mature is the maturity matrix? Is it doing any good, or is this just word games? Does it work or it is just a diversion around the real problem?

Mr. Krings, I know in his testimony, I read that he goes big on good management, tough management, and I agree with that. I agree with it 100 percent. If you get good people, like you have in the times past in the skunk works or whatever, all the things that we know about from the industry back in the past, you do a good job. If we do not have good people in those spots, you do not do a good job, so I agree with him on that. But as a way to help us along

and know where we stand, the maturity matrix was supposed to be a big help. Is it a big help or more a diversion?

Mr. CONAHAN. Well, I think it remains to be seen.

Senator GLENN. How mature is it at this point? Is it really working or not?

Mr. CONAHAN. At the moment, the matrix is tied to testing. What it says essentially is that there are certain exit criteria before you move on to the next milestone, and that is tied to testing. The matrix says that this specific testing has to be done before you move on to the next step. At the moment, there is only 1 percent of the total test program completed for the B-2 aircraft, so it is too early to say whether it is going to work well. I think that the schedule is very optimistic, but I think that if they comply with it, we are going to be in much better shape than we have been on a lot of other programs.

GOVERNMENT MANAGEMENT OF PROGRAMS

Senator GLENN. In past programs how much has the split of responsibility between a contractor and the government hindered things? I will tell you what I am thinking of. In the B–1, Rockwell was not given full authority to do everything in the B–1. We had the avionics package, as I understand it—correct me if I am wrong—the avionics package is a big hold-up and everybody criticized as to why the B–1 cannot do its job was GFE. It was Government failure, not Rockwell, that really got us in the pickle we are in. Is that correct, first, and, second, is this a major problem in all the weapon systems that we develop?

Mr. CONAHAN. No. Number one, on the B–1 bomber, there were four associated contractors, and the manager was the Air Force.

Senator GLENN. The Air Force, they were going to be the contractor in effect?

Mr. CONAHAN. Correct, and I think the record will show they did not perform as they should have performed in that regard. Most other programs are not done in this way. We have a prime contractor. For example, in the B–2, we do have a prime contractor, and we have subcontractors who are responsible to the prime contractor.

Senator GLENN. Have we tried that Government management on other programs? Has it failed there too, or have we had success stories using Government management? I thought that was a lousy setup to begin with.

Mr. CONAHAN. It has not been used very often, Senator.

Senator GLENN. I interrupted you there, what happened on the B–1 with the avionics package?

Mr. CONAHAN. Well, the contractor was not able to perform either from a technical point of view or from a producibility point of view.

Senator GLENN. Who was that?

Mr. CONAHAN. That was Eaton, and it just was not able to keep up, and the job got ahead of it. Then it was determined that that contractor was unable to meet the specifications that were laid out.

Senator GLENN. Would the maturity matrix applied to that have helped us any?

Mr. CONAHAN. It would have, but the way the overall program was designed a maturity matrix would have been very, very difficult. That was a completely concurrent program. The production contracts and the development contracts were let just about at the same time.

BLACK PROGRAMS

Senator GLENN. We have been kept in the dark over here, to make a horrible pun on black programs, in the past and that has contributed in the past to us not really knowing what the cost of some of these things and what some of the problems were. That is particularly true with regard to the B–2. When facts finally started coming out and we finally got the classified information back a couple of years ago, it was a real shocker to people here on the Hill. We had gotten this far and the costs had gone up as far as they had. Is there an effort being made to bring them out of the black as soon as we possibly can?

Mr. CONAHAN. There are fewer major programs in the black today than there were 3 years ago. There was an effort made, I believe, with respect to the fiscal year 1989 budget to bring a number of these programs out of the black. When we say black, that is the special access required category of classification. It was taken out of that category. In that year, I believe, the B–2 was classified secret. The next year it came out in an unclassified form. There are other programs that still carry the special access required, but I think as a percentage of the budget—and I am not talking intelligence here; I am talking pure Department of Defense acquisition programs—it is smaller today than it was back in that time frame.

PERSONNEL TURNOVER

Senator GLENN. Is turnover of personnel at Department of Defense in these procurement programs a major factor? For instance, during my 5 years on this committee, there have been three Secretaries of Defense and three acquisition chiefs. We have had very serious problems or canceled whole programs—just a few of them: DIVAD, B–1, T–45, AMRAAM, MK–48/50 torpedoes, C–17s, SINGGARS radios, ASPJ, Bigeye. The list goes on and on. Now, if you get to Mr. Krings' theory about management here, that does not put defense management in a very good light here. Do we have too high a turnover? How do we correct this, or what do we do? This is an awful list of incompetent management here, it seems to me.

Mr. CONAHAN. I think there are a number of related problems. Number one certainly has to do with turnover, but it is turnover not only in key policy positions, but it is turnover at the program manager level as well.

Senator GLENN. Is that most important? That may be more important than the top level.

Mr. CONAHAN. I think both are important, I really do.

Chairman NUNN. Senator Glenn, I will come right back to you. Senator Thurmond needs to leave, so if I could recognize him, I will come back to you.

Senator GLENN. I am sorry. I did not realize my time was up.

Senator THURMOND. Mr. Chairman, the Judiciary Committee is meeting at the same time, so I would ask unanimous consent that my statement be placed in the record.

Chairman NUNN. Without objection.

Senator THURMOND. And that some questions I have be answered by the witnesses for the record.

Chairman NUNN. Without objection.

[The prepared statement of Senator Thurmond follows:]

PREPARED STATEMENT OF SENATOR STROM THURMOND

Thank you, Mr. Chairman:

I want to join you in welcoming Mr. Conahan, Dr. Hicks, and Mr. Krings. All three have appeared before this committee on numerous occasions, and their testimony is always most enlightening.

Mr. Chairman, it is appropriate that this committee look at the issue of concurrent development and, hopefully, resolve the controversial aspects of the issue. I believe we need some concurrency in our weapons procurement process—otherwise many of our weapons would be outdated by the time they got into the hands of our soldiers.

I understand that the normal weapons procurement cycle varies from 8–12 years. This long lead time results in requirement creep, increased demands on the system, and adding on the latest high-tech gadgetry. By using concurrency, which overlaps the development and production phases, we can avoid these pitfalls and get the weapons in the field earlier. We should also keep in mind concurrent development—if done properly—reduces the overall cost of the program.

Concurrency does have its problems, and we can all cite examples such as the Sergeant York Air Defense weapon. However, I believe in many cases the need to get the system into the hands of the fighter and the potential cost savings outweigh the disadvantages.

Mr. Chairman, in my judgment the success of concurrent development hinges on a well-defined set of requirements for the system, coupled with a stringent and realistic testing program. I urge the committee not to excessively restrict its use; concurrency has its benefits, especially when used in the development of mid- and low-risk technology systems.

Thank you, Mr. Chairman.

Chairman NUNN. Senator Glenn, go ahead and finish your questioning and then we will have the other witnesses.

Senator GLENN. Do we need better stability at the manager level rather than Department of Defense big-time decision level? Do we need people hands-on down there managing the program? Is that the problem?

Mr. CONAHAN. I think we need stability and leadership. I think that you can take a look at times in the Pentagon where we had strong centralized leadership and management, and accountability and responsibility goes along with that. Then, at the program level, we have people turning over too frequently. A program manager just gets to know his program and then he is reassigned.

As important is that people in the past have gotten into these jobs who were not prepared to do them. You had a man who was very, very excellent, an excellent performer as the captain of a ship, and then you bring him in to run a program. He was not prepared for that. I think we need more professionalism of the entire acquisition work force, we need more training, and we need more continuity and stability.

Senator GLENN. Has the DMR review been addressing some of this? Is it going to be a help or not?

Mr. CONAHAN. Well, in my view, the DMR is mixed. A number of things in there are things that have been recognized as having

been needed for a long period of time. Some other things in there, it seems to me, are going quite in the wrong direction.

One has to do with the area that you are talking about. There is a proposal in there that we pilot six weapon systems under policies and procedures different from normal. In other words, they are asking Congress to waive a number of statutory requirements, and they themselves then want to waive a number of regulatory requirements.

First, it is not clear precisely what these are, but second, it seems to me, as I mentioned earlier, that the problem is not in the policy or the procedure of the requirement, but the problem has been in non-compliance with those things, and we have talked with Secretary Cheney and several times with Deputy Secretary Atwood on the need for follow-through.

You can come up with your DMR, you can come up with the report we talked about earlier on concurrency, but unless you follow through on those things you are not going to see much change.

Senator GLENN. Thank you. My time is more than up, Mr. Chairman.

Chairman NUNN. Thank you, Senator Glenn. I am going to finish with Mr. Conahan now, whatever questions we have, and then go to the other witnesses. So, are there any other questions for Mr. Conahan? Senator Cohen.

IMPACT ON INDUSTRIAL BASE

Senator COHEN. Would you respond to the question about the impact on Navy cost projections, shipbuilding efficiency, and retention of skilled workers, if they were to follow your recommendation at this point?

Mr. CONAHAN. I would have to first talk with the Department of Defense on that. I do not have an answer to that question right now, and there certainly would be an impact. Interestingly enough, the Chairman of the House Armed Services Committee asked Secretary Cheney several months back to provide that precise information with respect to the B–2 program. We, together with the House committee, are having an awful lot of difficulty in getting the fundamental information out of the Department in order to come to grips with your question on that program.

Senator COHEN. The GAO was asked the very same question at a hearing back in January when it testified before our counterpart, the House Armed Services Committee Seapower Subcommittee. The same question was asked and they said they had made no analysis as to what the impact would be, and I assume the same thing is true today.

Mr. CONAHAN. But we have been trying to get the information in order to answer that question. The Department of Defense has to work with the contractor and develop the fundamental information on that.

[The information follows:]

In August 1990, the Department of Defense's major warship review scaled back the DDG–51 and SSN–21 programs. As a result, the Navy and the shipbuilders have been quantifying the impact on the industrial base to include the shipbuilders and vendors. The GAO has been requested to review the impact on the SSN–21 program

and will start with the data being developed by the Navy and shipbuilders. The GAO plans to again review the status of the DDG–51 program. If the data is available, the GAO will also assess the impacts on the industrial base.

AEGIS DESTROYER CONCURRENCY

Senator COHEN. Let me just go to this issue of concurrency. Is it your position, or the GAO's position, that there is a concurrency problem with respect to the combat system and the Aegis destroyer?

Mr. CONAHAN. The destroyer, no. I do not think that we see the kind of problems there as I do in the submarine.

Senator COHEN. Is there a concurrency problem with respect to the machinery systems in the Aegis destroyer?

Mr. CONAHAN. I think the only comment I have on that is that one wonders if you should put the amount of money under contract, as we are doing in some of these programs, to include the 51 before having done more and better testing.

Senator COHEN. The question I asked is whether or not you find a concurrency problem in the machinery that is being installed in the Aegis destroyer?

Mr. CONAHAN. No.

Senator COHEN. So there is no problem with respect to the combat system. That is the same as we have on the Aegis cruiser, and that has been tested. There is no problem with respect to machinery because that is virtually the same as we have on the Aegis destroyer. It is actually simpler because the radar systems arrayed not on two towers but on one, so it is actually a more simplified system.

With respect to the hull itself, the essential hurdle was one of training workers on how to weld at other than right angles, and that is why I raised the question. If you were going to have a 1- or 2-year delay at this point, or after the first ship is under construction, then retaining the kind of special skills that would be required for that welding capability would be, it seems to me, a fundamental matter for the entire program.

I just think that including the Aegis destroyer in the same category as the B–2 is a mistake. I do not think the destroyer suffers the same high risk of concurrency. The Under Secretary of Defense for Acquisition does not think you have the same high risk of concurrency and it ought not to be included in the six major systems that were listed.

Mr. CONAHAN. Well, I think, Senator, that the 51 is not included in any of the 34 systems listed in that report.

Senator COHEN. That is right, and I am surprised you would include it in your report as an example of a system that has some high degree of concurrency.

Mr. CONAHAN. I think it does have a high degree of concurrency. The question is, what is the risk out there, and I believe there is still some risk in that program. The Navy has to integrate all the avionics in that program together with the hull. They had earlier problems with the hull itself. They have pretty much worked those out, but they still have before them those tasks that seem to disclose the real problems that we see in most of these systems, and those tasks are still before us on that program.

Senator COHEN. Number one, I think it is clear that that ship does not fall in the same category as the other major systems that the Under Secretary of Defense has listed.

Number two, again, I come back to the notion that I think it is very misleading for the GAO to lump them together, to say that you are going to have 17 ships under contract or construction before the first ship is actually produced. I think it is a misleading statement and I think it ought to be clarified.

Mr. CONAHAN. I do not disagree with that statement. I agree that there are ranges of risks and that the 51 is at the low range among those of high concurrency.

Senator COHEN. Thank you, Mr. Chairman.

Chairman NUNN. Thank you. Are there any other questions for Mr. Conahan? [No response.]

If not, we thank you very much for being here, Mr. Conahan, and we look forward to staying in touch with you as we proceed through this process.

Mr. CONAHAN. Thank you, Mr. Chairman.

Chairman NUNN. Our next two witnesses have already been introduced. I would like for them to come to the table. Dr. Hicks and Mr. Krings, we appreciate your being here. There is no particular order this morning. Mr. Krings, please go first, and then we will call on Dr. Hicks.

STATEMENT OF JOHN E. KRINGS, FORMER DIRECTOR, OPERATIONAL TEST AND EVALUATION, U.S. DEPARTMENT OF DEFENSE

Mr. KRINGS. Thank you, Mr. Chairman, and thank you for the opportunity to come back. I have a prepared statement and I would like it to be entered in the record, if I could, and then very quickly outline some of the things that I would like to talk about.

Chairman NUNN. Without objection.

Mr. KRINGS. Thank you. I guess we find that concurrency is probably the least understood major question that people discuss in acquisition, and it probably has the highest leverage with respect to the cost of the weapons systems, both in terms of cost and time, and clearly has had an adverse effect on what we are all here for.

We are all here to get weapons system to combat people in a most efficient and costly way that will achieve the goals that these people in the combat systems have asked for. I think sometimes we get a little wrapped up in the process rather than what we might be here for in the first place.

I think that, as Senator Glenn pointed out, in looking at the success of some of our programs we could easily be brought to task by those that we serve. I think a classic example is the air defense community in the Army. They are still out manning Vulcans, which are 30-some years old. They have watched us go through DIVAD, and they are, I am sure, watching us go through ADATS and wondering whether this huge system will ever produce a new gun for them, and they are still trying to do their best.

We are not necessarily getting them the equipment that they need. The F-16 pilot is still looking for an AMRAAM and still looking for an ASPJ, he is sitting somewhere in the path of combat

without the equipment that he was promised would be in his airplane when he signed up to go into combat.

I think that we properly should be looking at what we are doing, because those who we serve, I imagine, are looking at it maybe a little different than we are.

The issue of concurrency, which has this immense leverage, is really a case of capability. In the past, we have assigned concurrency based on a policy or an ambition or an urgency. Concurrency can only be done by ability, and we never seem to properly assess ability.

Chairman NUNN. By that and in your statement, now what you mean is a concurrency that is successful, is that right?

Mr. KRINGS. That is correct.

Chairman NUNN. Concurrency can be done by anybody.

Mr. KRINGS. It can be attempted by anybody.

Chairman NUNN. As I read your statement, you are defining concurrency as a successful concurrency, are you not?

Mr. KRINGS. Yes.

Chairman NUNN. There also is concurrency that is massive failure, right?

Mr. KRINGS. Absolutely.

Chairman NUNN. What you really are saying here is successful concurrency requires very high capability.

Mr. KRINGS. That is correct, and it seems to be able to be done by very few. The problem is that we assign and assess a level of risk or ability, whichever way you look at it, incorrectly when we start the programs in the first place.

I think in my statement I make an analogy to golf. We would all like to be par players, but very few of us are, but the handicap that we go into a golf game with is a certified handicap based on our ability. The handicap that we often assign in terms of a concurrency, assigning how quickly an organization, either a contractor or a contractor-Government team will accomplish this design and development task, we mis-assign it.

We run into problems and everyone says the reason we are behind is because we have problems. The reason we are behind in most cases is because we did not forecast the fact that we were going to have a problem, and we knew it. We mis-assess the risk. The risk is there, and we really know how to do it, but we do not candidly assess how difficult the job will be, and, therefore, we assign a level of concurrency we are unable to achieve. We get behind and everybody says concurrency is bad.

Chairman NUNN. I like your analogy with golf, but I would say there is one difference. On the golf course, when you step up on the first tee, all the players are trying to develop, for the purposes of the big bets, the highest handicap possible.

Mr. KRINGS. Exactly like the negotiation for a weapon system.

Chairman NUNN. I do not know. I think in a weapons system what people are trying to negotiate in companies and so forth is the lowest handicap possible. They want the concurrency to be rapid, as if they all are Jack Nicklaus. That is the way you lose your bet in golf.

Mr. KRINGS. That is right. You are not as good as you think you are.

Chairman NUNN. The problem is the incentive in defense contracting is the opposite of the incentive in golf. That is that you get a concurrent program and you somehow make out like a bandit. If you get a low handicap in golf and step up there with one stroke off Jack Nicklaus, you are going to get taken to the cleaners, and what happens is the players do not pay the price in this situation.

Senator GLENN. As a non-golfer here, I might enter this conversation and say it is obvious to me that a lot of lying goes on at both places. [Laughter.]

Chairman NUNN. It depends on which direction you are lying in. There is a big difference in who pays the bill. Golfers who get too low a handicap and lie about it, they get cleaned. Defense contractors who try to have too much concurrency must think it pays off; otherwise they would not be doing it.

Mr. KRINGS. I think it is an agreed-upon situation early on. Clearly, very few, if any, contractors are making any money in development programs. What has happened, to mitigate the risk on the part of the Government, having negotiated a low handicap they cannot do, in many cases they go to a firm, fixed-price development contract. That means that the risk is partially or mostly taken off the Government and put onto the contractor, because it is now his risk to perform at a rate that really cannot be done. Consequently, the contractor gets behind, and now we have to look at programs that are overrun in time and cost. They are really not overrun in time and cost. They are overrun in the assessment, in the risk assessment of what it was going to take.

In most of these programs, if you watch the evolution of the program and you look at the real, original schedules that are put out by the people who have to execute at the engineering level, those schedules are often followed. It is just that they have been reduced so significantly during the negotiation phase to represent something that will be so-called acceptable and then we fall behind. We then go to a firm, fixed-price contract in development, and it cannot be executed within that.

Chairman NUNN. I have read your whole statement, Mr. Krings. I find it intriguing, and my question is, getting right down to it—and I want to hear the rest of your presentation, though—is how you give an incentive to the players to go by the schedules that are given by the engineers? Something is wrong with the incentive system. The incentive system is giving everybody—the program managers, people all down the line—the incentive to try to claim too low a handicap.

Mr. KRINGS. That is exactly right.

Chairman NUNN. How do we get that incentive changed? Because if you make it unprofitable for people to get too low a handicap, they would no more do that—a business would no more ask for a low handicap or excessive concurrency than I would walk out on the tee with Jack Nicklaus and say, I will play you for $100 a hole, and you give me one shot on number four. I am not going to do that. I am going to want a stroke a hole.

Mr. KRINGS. The difference you have brought up exactly, and that is, if you are willing to accept that handicap, you get to play. If you do not accept the handicap, you do not get to play. That is the problem. If you wanted to play with Jack Nicklaus and they

had a cut at a handicap of five and you were an eight, you would say, I am a five, because I want to play. It is the only game in town, and that is what happened.

Chairman NUNN. I would not if there was a bet on it and I was going to lose money.

Mr. KRINGS. Maybe your successor will lose the money. Maybe you can renegotiate the last few holes. That is the hope and that is the reason, that is the fundamental problem. We negotiate a program that cannot be executed, but there is no alternative except not negotiate a program that cannot be executed.

And so with the limited amount of business that is available and the single customer that exists, that is in fact what happens, and we are doomed in programs, I am sure there is one being signed as we speak, and certainly ones that have been signed more recently. The shift of the burden to fixed-price contracting and development has just forced us—when I was in the Department, and forced you in many cases—to move LRIP earlier in order to get the money out of low rate production to achieve the development that there was not sufficient time and money to do.

What must we do, in terms of the current programs? Let us just look at the current programs first. We have to really assess the true handicap, and in many cases, we do not have to forecast, we have the luxury of hindcasting. We can look at the progress of the program that is ongoing, and assign it a more realistic handicap, if you will, or a more realistic progression rate. That was the concept that Senator Glenn talked about the system maturity matrix in which you assess the progress of the program by events rather than by schedule.

By the same token, I think that a candid, realistic assessment of these programs would show that it will take longer in many cases, and we will have to slow down the program. But we are not slowing it down by policy. We are not slowing it down by urgency. We are slowing it down by ability. The concept that concurrency should be executed when there is urgency just does not work. It just means you get out more products that do not work more quickly.

Chairman NUNN. We knew the program managers over a period of time have incentive not to give the right handicap, correct?

Mr. KRINGS. Right.

Chairman NUNN. They are always going to assess the risk of their program usually lower than it really is. Who is going to be responsible for handicapping? It seems to me the best way to do it is to try to figure out some economic incentive so the market takes care of itself. You do not have to have the golf pro go out on the first tee to negotiate with the players on handicaps. They have an incentive to negotiate the best handicap they can get for themselves. Now, why can't we turn the incentive around?

Mr. KRINGS. Because we do not have the discipline. In a golf game, you cannot keep your own score. It is put up every time you swing, and everybody knows what the score is. If you could keep your own score in your pocket and nobody could count it and you could turn it in afterwards, then we could renegotiate.

The problem is that there is not a culture to try to do it right the first time, and to try to get the right handicap, because there really

is not a competition when this starts. In many cases, there is only one real contractor who could really do the job well. If you looked at their capabilities, there is really only one. But we must have competition, theoretically to create this competitive atmosphere, reduce the costs and price, and increase the quality, because we do not have adequate management to do it with the contractor that we have selected.

Obviously, if we picked the best one and manage it best, we would get the best results. Instead we buy, in many cases, a competitor. We buy the competitor in order to pace this other person, and we can stand back and watch them fight it out. It does not take much management. We will just let them fight it out and see who gets there first. But the problem is, in many cases we have had to buy a competitor to do that, and the net result in cost reduction and improvement in quality is not a plus. It costs us too much to buy the competition.

So what I am basically driving at is we should always be trying to improve our ability to do concurrency and ultimately get to a totally concurrent program. This is incredibly difficult, but it should be a goal that we are trying to seek, because fundamentally that is the embodiment of doing it right the first time.

It is difficult, but we should recognize our ability now, apply those abilities to the programs that exist, and create a mechanism that candidly assesses and disciplines the process after we have made this assessment. To not get to the position we are today, we must have the discipline within the acquisition system to say no or to say you cannot go any further because you did not achieve what you said you were going to do.

The reduction in urgency that you speak of allows us to make those kinds of judgments in acquisition, because the urgency is reduced today, and we do not have to have everything. We really should have been applying that same degree of discipline even when we did need them, because that is really a more crucial time than when we do not need them.

Thank you.

[The prepared statement of Mr. Krings follows:]

PREPARED STATEMENT OF JOHN E. KRINGS
FORMER DIRECTOR, OPERATIONAL TEST AND EVALUATION
U.S. DEPARTMENT OF DEFENSE

CONCURRENCY IN THE DEFENSE ACQUISTION PROCESS

Concurrency like golf is not good or bad -- just difficult. We must assess our handicap, our ability to execute concurrency, objectively or we will continue to perform poorly, continue to overrun schedule and cost. We must no longer avoid the difficult task of candidly assessing government and industry's experience, track record and management ability when assigning the acceptable degree of concurrency for each program.

Very few if any contractors or government program offices are capable of successfully executing a highly concurrent program. It will take a major cultural change from the top down, lots of hard work and smart resource investment to improve concurrency. But it's worth it. We can't afford to go backwards to the serial methods of the past.

Views on Concurrency

Concurrency, or overlap between development and production, has often been a subject of defense acquisition policy. Herein lies the problem. Defense acquisition programs have been structured with varying degrees of concurrency. These varying degrees of concurrency have been dictated by policy, ambition and military urgency. Many now suggest reducing concurrency, again by policy, due to unfilled ambitions and reduced military urgency.

Successful concurrency is a function of ability -- not policy, ambition or urgency.

Studies on concurrency have been done by the General Accounting Office, the Congressional Budget Office, the Directorate of Operational Test and Evaluation in the Office of the Secretary of Defense and many others. All have tried to assess the value or success of concurrency as an applied defense acquisition strategy, seldom challenging the ability to achieve concurrency. These studies have been done by observers, inspectors, budget analysts, and "study houses." Few, if any, studies have been done by designers, developers, and producers -- the people who must execute concurrency.

Concurrency in Existing Programs

I would agree with most assessments that concurrency as we all view it has been less than successful. Current and future programs should not employ concurrency by policy, ambition or urgency, but should assess the government and industry team's ability to execute a concurrent program.

Very few defense industry contractors are capable of successful concurrency. We should reduce concurrency in most of our major acquisition programs -- not because of policy, unfulfilled ambitions or reduced urgency, but by objectively assessing the ability to achieve concurrency.

Why wouldn't we want to ultimately achieve 100% concurrency?

Concurrency is like golf. 100% concurrency is par. We know shooting par saves time and makes money. Everybody knows what it is but few are capable of doing it. Concurrency requires exceptional management leadership, technical ability and sophisticated resources for design, engineering, development, testing and production. In golf, we use a handicap system to measure capability (percent of concurrency). You can't dictate handicap (by policy, ambition or urgency). You earn your handicap and certify it by evidence of ability. Defense programs are progressing well below par and in most cases well below their "advertised handicap" (planned percent of concurrency). However, we continue to dictate (by policy, ambition and urgency) a low handicap to each new program.

Concurrency and Contracting

Government efforts to hedge against the risk of concurrency have spawned fixed price development contracts, attempting to shift the risk from the government to industry. Fixed price development has generally been a failure. I think what we really want is efficient, quality, profitable, minimum time development. This takes skillful source selection and very good management. In defense acquisition, competition, second sourcing and fixed price development have been easy (but expensive) alternatives to good management. Fixed price production contracts should not be awarded until after operational testing -- when full rate production is approved. A contract that provides for event-driven, incentivized, fully funded, profitable development is the best program investment. Low rate initial production should be the transition to fixed price full rate production. Good management must control cost not willingness to take financial risk.

With today's approach to "competition," we "buy" competitors and let them fight it out. Costs lower, efficiency improves, quality rises but, taking in to account the cost of "creating competition," it doesn't always provide a net real cost reduction, especially when production volume is reduced. Overall costs are reduced by better quality, management and efficiency -- the competition is the catalyst -- better management alone could achieve the same reduction in cost.

The defense industry is the prime source of our military technological superiority. We must devise policies that will incentivize profitable R&D, low rates of production and technical risk taking. With reduced budgets we must reduce the "overhead" of audit, inspections, excess reporting and unnecessary micromanagement. Industry and government must improve together.

Controlling Concurrency

We must change. We must assign concurrency based on prior performance and objective judgment -- then couple the program's budgetary progress to demonstrated achievement during its development programs. There must be an attractive incentive for meeting or beating schedules. Discipline in the acquisition process has been the singular greatest problem. Crucial programs reach production without approved test plans. Advocates evaluate progress. Information processes and decisions are subjective.

While in the Department of Defense (DOD), I initiated -- with Secretary Weinberger's support -- a disciplining process for key programs -- the B-2, C-17 and others -- called the System Maturity Matrix (SMM). I would not permit another B-1 program

with no objectively reported testing until after production. A simple household approach was established, controlling concurrency by coupling funding milestones to an agreed upon demonstration schedule (and the way most of us went through college). The process is event driven rather than calendar driven, with objectively measured achievement compared to an agreed upon plan (a "report card" at each milestone). The process ultimately leads to achieving a pre-established level operational capability as the definition of Initial Operational Capability (IOC), rather than today's approach of a scheduled executive proclamation of IOC.

We wanted graduations, not birthdays. I have included a reprint of Colonel Bob Behler's article in the ITEA Journal describing the SSM. Secretary Carlucci and Secretary Cheney endorsed the process. Under Secretary Costello strongly supported and championed this mechanism. Deputy Secretary Atwood and Under Secretary Acqusition Betti have strengthened and expanded these initiatives. The discipline must be constantly improved.

Improving Concurrency

There are processes to improve concurrency that closely parallel those for reducing handicaps. To pursue a goal of 100% concurrency, like par, we must look to the more successful programs in and out of the defense industry. Total Quality Management, concurrent engineering, extensive modeling and simulation, and all the other contemporary tools of industry must be aggressively exploited to succeed in improving our ability to execute concurrency. Without improvement, we are relegated to a slow, expensive serial process controlled by inspections, auditors and evaluators. The culture of doing it right the first time and test, test, test at the lowest level is the only path to reduced cost and time. These improvements can't be made by policy or legislation. They require a culture change, hard work and measurement to show evidence of progress. If you can't measure it, it doesn't exist. The cultural changes must start at the top -- with the President and you, the Congress.

DOD Report to the Congress on Concurrency

A recent report on Guidelines on Concurrency has been prepared by DOD responding to the FY 90-91 Authorization Act. While it clearly answers the requests of the Congress, it does not promote the true value of constantly working to increase successful concurrency as an acquisition goal. I agree with the definitions and risk assessment in general. The assessment of risk is being done by the advocates of the program. The assessment of the degree of risk associated with concurrency for each major defense acquisition program exemplifies the ambitious and optimistic "handicap" assigned to each program. No program has an overall high risk assessment, even though many programs are years behind schedule and well over cost estimates. This assessment is most indicative of the continued use of fixed price contracts and consistently poor assessments of ability -- assigned low handicap. The most important criteria for success in concurrency is not even assessed. The experience and track record of industry and government management at the program, corporate and Service level. We want players who <u>have</u> low handicaps -- not people who <u>want</u> low handicaps. Many of these programs have not and will not come even close to their concurrent ambitions. They don't have the resources, talent, and ability to match their handicap.

Congress and Concurrency

If we agree concurrency should be improved, and we further agree that contemporary management of design, engineering, development and production is the path to this improvement, we must start at the top. The Congress seems to be the hardest place to sell TQM and its associated cooperative culture -- yes, even harder than DOD and the defense industry. The dominance of lawyers and political advantage seeking individuals fuels a litigous, confrontational atmosphere that is 180 degrees opposite to a cooperative, trusting relationship. Without some improvement in Congress's adversarial attitude, we will continue to spend more for less in defense and become a lesser international player.

The cost of the "burden of mistrust" to defense acquisitions is staggering. The DOD must cooperate and be more objective and candid with the Congress to earn this improved Congressional attitude. DOD has begun a Defense Management Review. Why didn't we start at the top with a review of Congressional management of defense? Duplication and distrust starts in the Congress, is amplified and expanded in DOD, and copied and charged for by the industry. Like TQM, change must start at the top. I strongly recommend a review of the Congressional defense legislative process first, with recommended improvements for legislation.

Concurrency Products

To continually improve concurrency we must, among other things, practice concurrent engineering and involvement by all disciplines with the users. This atmosphere breeds innovation in defense acquisition. With longer warning time to mobilize, many industry cost saving processes become available. Just-in-time weapons, assembled and deployed during mobilization and build-up, expend costs of assembly and transportation only when committed. The life of the weapon begins with assembly, this allows lower cost, short-life weapons to be used in the conflict anticipated by the mobilization.

Designs focused on reducing long-lead items and time to manufacture are highly leveraged initiatives, reducing the pacing limitation to short concurrent programs. User-friendly weapons that can be effective with minimal training and no recurrent training allows achievement of combat readiness, more quickly and at lower cost. Concurrent engineering balances the value of all contributions to development. It is the fundamental basis for successful concurrency.

A New Way of Controlling Concurrency – The Systems Maturity Matrix

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Abstract

Concurrency in major systems acquisition tends to make delivery schedules more important than operational capability. If not handled cautiously, extreme levels of concurrency, as in the case of the B-1B, allow inadequate time for test and evaluation and undermine program integrity. In an attempt to control concurrent acquisition programs, the Office of the Director, Operational Test and Evaluation, within the Office of the Secretary of Defense, has developed the Systems Maturity Matrix. This document establishes the testing and demonstrated capability that will be available to support major production decisions. The Maturity Matrix is not intended to set pass/fail criteria, but rather to permit a qualitative assessment of system progress and maturity. This concept is the "wave-of-the-future" for concurrent acquisition programs. With the trend in defense acquisition moving towards more instead of less concurrency, a tool like the Systems Maturity Matrix becomes extremely important. What started out to be a formalization of information already available to the Program Manager has progressed into a new buzzword in the acquisition and test communities.

Ideally, a weapon system acquisition strategy would minimize the low-rate initial production (LRIP) quantity and maximize operational test and evaluation (OT&E) prior to making a full-rate production decision, a traditional concept commonly referred to as "fly before buy." This approach usually yields a high confidence answer to the question "will it really work in the field?" before a large financial commitment is made to procuring the system. DoD Directive 5141.2 corroborates this process by defining LRIP as a limited quantity to be used in OT&E to verify production engineering and design maturity and to establish a production base. DoD Instruction 5000.2, "Defense Acquisition Program Procedures," further states that LRIP may be approved to provide the test resources necessary to conduct interoperability, live fire, or operational testing.

This approach to acquisition, albeit prudent, is unfortunately very time consuming; and time is money and delayed operational capability. From the user's standpoint, traditional acquisition delays fielding needed systems, and sometimes, when they are finally fielded, new technology makes them obsolete. Imagine, for example, how long it would take to build a house if each room were built sequentially instead of concurrently – not to mention the overall price tag. In an attempt to speed up the process, a *concurrent* acquisition strategy is normally used, one which simultaneously develops and produces a new system. When correctly implemented and properly controlled, concurrency may reduce cost, which is a major Congressional objective. However, if not handled cautiously, extreme levels of concurrency, as in the case of the B-1B, allow inadequate time for test and evaluation and undermine program integrity. Consequently, delivery schedules in con-

B-1B program provided valuable T&E lessons learned.

current programs tend to become more important than operational capability. To prevent a repeat of the B-1B acquisition experience, the Office of the Director of Operational Test and Evaluation, Office of the Secretary of Defense, has interpreted DoD Directive 5000.3-M-1 and devised an avant-garde approach to controlling concurrent acquisition programs – the Systems Maturity Matrix.

The Systems Maturity Matrix was developed as an adjunct to the Early Operational Assessment of a system (a topic for another paper). This matrix defines for each major milestone what testing will have been completed, what testing is designed to show, and what system capabilities should be demonstrated. This document is not intended to set strict pass/fail criteria, but rather to permit objective qualitative assessment of the system's progress toward fulfilling user requirements. It is designed to enhance the test and evaluation community's ability to give decision makers meaningful, objective information on which to base critical program decisions.

In developing a Systems Maturity Matrix, a "participative" management style should be employed. That is, early in program formulation the program manager determines what levels of capability and testing are expected at each identified checkpoint. These levels should not be selected capriciously by the program office. Instead, the criteria should be supported by all the best information available from studies, modeling and simulation, analyses, and from the actual hardware as soon as it becomes available. After the matrix is developed and approved, it then becomes a formal part of the Test and Evaluation Master Plan. As the program progresses, the matrix can be updated to take advantage of current information. This process allows the Systems Maturity Matrix to be a realistic, dynamic document.

Inherently, there are many advantages to the Systems Maturity Matrix methodology: (1) It provides safeguards early in the program, and success is judged against realistic early capabilities instead of end-of-program expectations. (2) It allows critical operational issues to be better defined and allows them to evolve as the system matures. (3) It provides more accurate and relevant input to the decision makers at each milestone. (4) It protects each milestone or decision point with an assessment based on a realistic set of criteria. (5) It presents a more positive picture to the Congress and DoD by showing proper controls and assessments against realistic standards. (6) It adds flexibility to a program by identifying critical paths for test and evaluation.

To illustrate the usefulness of the Systems Maturity Matrix compare the investment difference between a

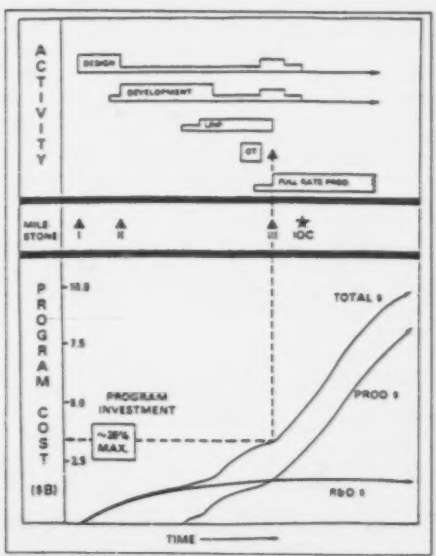


Figure 1. Traditional Program Approach

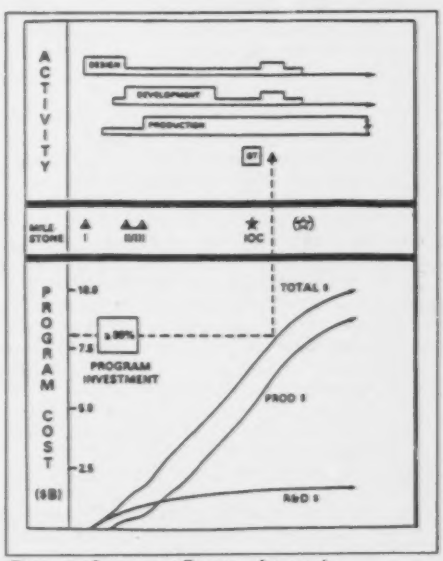
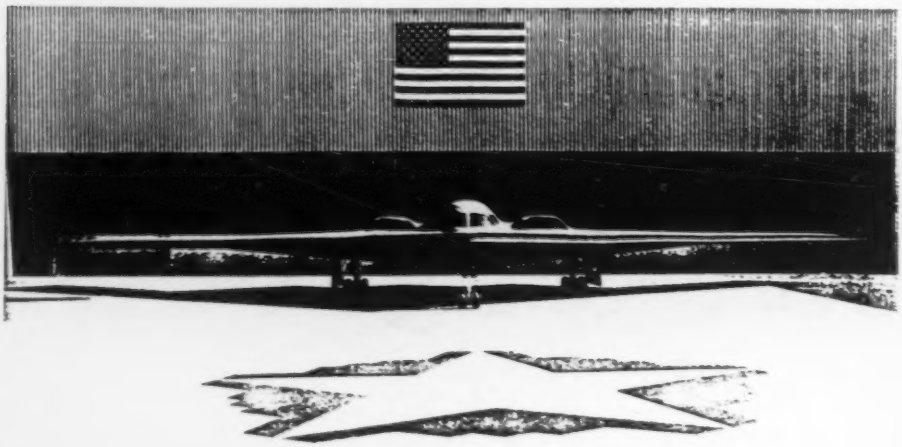


Figure 2. Concurrent Program Approach



The B-2 Systems Maturity Matrix has set a standard for other programs.

traditional program, one that is "fly-before-buy," and a concurrent program. *Figures 1 and 2* dramatically show that, for a typical high-unit-cost traditional program, only about one-third of program dollars are invested by the time dedicated OT&E is completed. By comparison, a concurrent program typically has more than 80 percent invested by the end of OT&E. If moderately concurrent programs (programs that have more than 50 percent of program funds committed before the end of OT&E) had a production decision-making tool like the Systems Maturity Matrix to define the expected levels of capability and testing at each milestone, the degree of investment risk could be substantially reduced.

Concurrency in the B-2 program offers a significant management challenge. Even after the B-2's maiden flight, experience suggests that it could take two or more years to complete OT&E. This being the case, and primarily because of concurrency, production decisions during the B-2's development period will be based on information other than completed OT&E. This dilemma was the impetus that led to the development of the System Maturity Matrix.

With this maturity matrix, an instrument is now available to assess B-2 systems maturity at each production decision before OT&E is completed. In September 1988, after several months of diligent work and coordination, the final iteration of the B-2 System Maturity Matrix was approved. This document was subsequently well received by the defense committees of Congress and sets the standard for other concurrent programs. This particular matrix addresses the aircraft's mission performance, low observability, vehicle performance, integrated logistic support, mission planning systems, and training systems.

The Systems Maturity Matrix is the "wave-of-the-future" for concurrent acquisition programs. The next major acquisition program to use a Systems Maturity Matrix will be the C-17. Tentatively, this matrix will be event-oriented and not tied to specific dates. Events like final assembly of the first test aircraft, first flight of the first production aircraft, final certification for dedicated OT&E, the full-rate

The C-17 program will use a Systems Maturity Matrix.

production decision milestone, and Milestone IV could be used.

With the trend in defense acquisition moving toward more instead of less concurrency, a tool like the Systems Maturity Matrix becomes extremely important. What started out to be a formalization of information already available to the program manager has become a new buzzword in the acquisition and test communities. As one program manager stated, the System Maturity Matrix "puts everyone on common ground to assess the progress of an acquisition program toward ultimately meeting user's needs."

References

1. DoD Instruction 5000.2, "Defense Acquisition Program Procedures," September 1, 1987.
2. DoD Directive 5141.2, "Director of Operational Test and Evaluation," April 2, 1984.
3. DoD Directive 5000.3-M-1 Change No. 1, "Test and Evaluation Master Plan (TEMP) Guidelines," February 5, 1988. ■

Lieutenant Colonel (Colonel selectee) Robert F. Behler, USAF, is the Assistant for Strategic Systems to the Director, Operational Test and Evaluation, Office of the Secretary of Defense. Colonel Behler is a graduate of the USAF Test Pilot School. Following graduation he was assigned to the 6512th Test Squadron, Edwards AFB where his flight test projects ranged from structures and flutter testing to evaluating the T-38 aircraft with large modified speedbrakes to simulate Space Shuttle performance characteristics. He was the DoD Operations Officer for the first Space Shuttle flight. From 1982-1985, he was assigned to Beale AFB, California where he flew the SR-71. In June 1985 Colonel Behler became the SR-71 Deputy Commander for Operations at RAF Mildenhall, England. From July 1986 to June 1988 he was the Commander, 31st Test and Evaluation Squadron, Edwards AFB, California, where he was responsible for operational test and evaluation of strategic weapon systems for the Strategic Air Command. Colonel Behler has a Bachelor of Science Degree and a Master of Science Degree in Aerospace Engineering from the University of Oklahoma.

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Chairman NUNN. Thank you, Mr. Krings. Dr. Hicks.

STATEMENT OF DONALD A. HICKS, CHAIRMAN, HICKS AND ASSOCIATES, INC., AND FORMER UNDER SECRETARY OF DEFENSE FOR RESEARCH AND ENGINEERING, U.S. DEPARTMENT OF DEFENSE

Dr. HICKS. Senator Nunn, gentlemen, it is a pleasure to be here and talk about concurrency in this acquisition process of ours. I have a prepared statement I would like to submit for the record,

and then I would like to go over certain elements of what I have in that statement.

Chairman NUNN. Without objection, it will be part of the record.

Dr. HICKS. You know, our acquisition system is extraordinarily complex. It is a combination of military requirements, technology, economic and industrial base considerations, laws, policies, and directives, and many other intangibles—an interaction that is not amenable to piecemeal attempts to reform it.

I think all of us fail very often to recognize how complicated most of our weapons systems are today. When you have a system that is anywhere from 300,000 parts to a million parts to 1.8 million parts that have to interface, it is really an incredibly complicated situation.

And if we look at it simply and try to make simple demands, all we do is tend to complicate the problem. It is really only through a comprehensive consideration of the entire system that we can do anything to improve it.

Now, the fundamental rationale for concurrency is just part of that total situation. If we try to pull concurrency out and consider it out of context we are going to fail.

One of the comments was on the ECM system for the B–1. Concurrency had nothing to do with the ECM problem on the B–1. The issue was that the military requirements imposed on that system were incorrect in the first place. So the program did not start right in that area, and it could never have ended up right.

So, if you get back to something I have said so many times, our real problem is that we put enormous handicaps on the people who are going to build the system, and we have put enormous handicaps on the people who need the system, and in fact, we do that and we are continuing to do it by making it more and more complicated for those people to talk together.

When you have a military requirement, a person in the field always wants the most he can get. That is natural. Perhaps he is a CINC and has major responsibility. He has very limited understanding sometimes of what the risks are in producing a system and what he is to ask for. Sometimes he does not know that he can ask for more.

There is a very limited opportunity, in my view, and becoming much more limited because of laws and regulations that are being passed, for these people to talk to each other. I mean, they have to be sure that they have carefully used every lawyer in the building to make certain they are not doing something that violates some competition rule, for example.

I can remember in the old days when we used to get together with a customer and talk about the need, find out what they like to do, tell them what we thought was possible, tell them what the risks were, to go further than that, and come up with some conclusion. But until we get to a point where we understand the risks of what we are asking for and go into some military requirement, we are just never going to be able to solve the problems of which concurrency is just one.

Chairman NUNN. Dr. Hicks, would you furnish for the record, if you would or if you know now, any laws that impede communication within the Department of Defense?

Dr. HICKS. I would be glad to Senator, and I will do it for the record as it is a large number of them.

[The information follows:]

LEGISLATIVE BARRIERS TO COMMUNICATION IN THE DEFENSE ACQUISITION PROCESS

During his May 17, 1990 testimony before the Senate Armed Services Committee, Dr. Donald A. Hicks stated his opinion that legislative barriers to communication have been progressively erected between the government and industry and these barriers are having a deleterious affect on the nation's ability to acquire weapon systems efficiently and economically. Chairman Sam Nunn responded that he had heard similar allegations made previously, but no one had yet been able to identify the laws that were the cause of reduced communication. He asked Hicks to provide such a list to him.

Perhaps the reason that Senator Nunn had previously heard only allegations is that it is not an easy task to compile a neat and orderly listing of offending legislation. There are, in fact, very few laws that in and of themselves create a barrier to open exchanges of information. It is more a matter of the laws collectively creating an atmosphere of antagonism and mistrust that has progressively suppressed these exchanges.

A closer examination of the situation reveals that there are laws that impose **direct** limits on communication between government and industry. Similarly, there are laws that have an **indirect** affect on the dialogue, usually as a consequence of the implementing measures that are promulgated by the Executive Branch. As yet a third influence, communication is more subtly stifled through **implicit** means, frequently as a result of new legislative actions that create a negative impression of formerly acceptable business practices.

These direct, indirect, and implicit effects of legislation are further complicated by factors that obviously were not considered at the time that the legislation was enacted. For example, many of the recently enacted laws to prevent fraud, waste, abuse and other irregularities in the acquisition process are essentially duplicative and often conflict with already existing legislation. Little, if any, analysis is done before a law is enacted to determine if it will achieve the intended goal, if there are detrimental, unintended side effects, or if there might be a significant impact on productivity and administrative burden. Frequently, the types of legislation under discussion are last-minute amendments to major bills that never undergo scrutiny in committee or during floor debates. Collectively, the laws themselves and these related factors have created a psychology of mistrust and fear that permeates the acquisition environment and stultifies free and open communication.

It will now be the purpose of this paper to provide examples of laws which illustrate direct, indirect, and implicit effects on the communications process. The more intangible forces that are at work within the acquisition process will also become apparent as the discussion proceeds. A listing of other laws in addition to the examples is attached, individual provisions of which become part of the composite of antagonism and mistrust that is progressively worsening within the Defense establishment.

The clearest example of a direct impediment to communication is the Byrd Amendment (Section 319 of Public Law 101-121, initiated

in the Department of Interior and Related Agencies Appropriations Act of FY90). This law prohibits the use of appropriated funds to pay contractor employees or consultants for influencing, or attempting to influence any Member of Congress, Congressional staff, or official or employee of any government agency with respect to any Federal contract, grant, cooperative agreement, or guaranteed loan.

Further, the law requires all government contractors or possessors of grants, cooperative agreements, or guaranteed loans to file a disclosure report on all reportable government contacts to the appropriate government agency on a quarterly basis. These disclosure reports are audited, analyzed, and then amassed by the head of each government agency and submitted semiannually to the Secretary of the Senate and to the Clerk of the House of Representatives. The question of disposition of these reports by the Congress is not addressed in the law.

Within the Defense establishment, prime contractors, subcontractors, and consultants have consequently developed extensive and costly bureaucracies so that they might properly fulfill the requirements of the law. Similarly, government agencies have had to create their own bureaucracies to receive, audit, and pass on to Congress the huge volume of disclosure reports.

The law has made unallowable the costs of many of the communications that had previously been considered a normal part of doing business with the government and keeping elected representatives informed. Certain additional prohibitions included in the Office of Management and Budget implementation guidance now prevent contractors from being reimbursed for their consultants' non-exempt activities even if a Member of Congress specifically requests a briefing by, or meeting with, the consultant on that subject.

The ramifications of this legislation are rampant. The entire Defense procurement structure is being inundated by a workload that in no way improves the efficiency and economy of its acquisition system, and, in fact, detracts from it. Laws which restrict abuses have existed virtually as long as the practice of lobbying, and the Byrd Amendment has done little to change the practice.

But it has dramatically restricted the ability to communicate. It is analogous to a situation with which we are all familiar -- the laws that exist to control the speed of motorists on our highways. There are occasional violators of the laws and the flagrant violators are often caught and punished for their transgression. By contrast, the Byrd Amendment is akin to deciding that there are still people speeding who are not being caught, so therefore we need to pass a law that prohibits everyone from driving.

While we commonly associate lobbying with the Congress, the effect of the Byrd Amendment has been equally chilling on the dialogue between contractors and their consultants, on the one hand, and officials and employees of the Executive Branch, on the other. The same reporting requirements apply, the same barriers exist, and Federal agencies are just beginning to recognize the scope of the difficulties accruing from the Byrd Amendment.

It is perhaps gratuitous to point out that the Defense establishment is not the only sector of our society that is covered by the Byrd Amendment. An artist seeking a grant from the National Endowment for the Arts is equally affected, as is

the survivor of a disaster who attempts to gain an extension on a government loan. However, it is patently obvious that those aspects of the law are unenforceable. Despite the encompassing nature of the wording of the law, the legislation is clearly focused on the Defense procurement process.

In summary, the Byrd Amendment can, in no way, be interpreted as prohibiting communication between industry and government, but the psychological affect is essentially making up for what was not specified in legislation. It is human nature not to want to be the subject of a Washington Post article that has onerous implications, particularly when the thrust of the report is "an attempt to influence a government official". The term itself has all the earmarks and aroma of a prosecutable offense. Experience over the last six months is clearly showing that when given the option of being "reported" for a government contact or not communicating, the latter is the preferred course of action -- regardless of the importance of the message.

The second class of legislative impact on communication -- the indirect affect -- stems principally from the need for implementing regulations. Since the responsibility for enforcement of the laws of the land falls to the Executive Branch in our form of government, the agency with enforcement authority is usually required to interpret the intent of the law and provide guidance to its enforcement officials. This task is considerably complicated when the laws are vague and hastily constructed to achieve a narrow objective.

Legislation which best describes this situation is contained in multiple acts which are collectively known as the "Competition in Procurement" laws. They are represented primarily, but not inclusively, by Section 909, PL 99-661 from the FY87 Authorization Act and Section 8037, PL 100-202 from the FY88 Appropriations Act. These and other well-intentioned sections were aimed at increasing economy and efficiency in the development and production processes through competition. In practice, those have not been the only results.

In an effort to make the competition among Defense contractors as equitable as possible -- to "level the playing field" as the expression goes -- DOD has promulgated implementing directives entitled, "The Release of Acquisition-Related Information". While stating, "It is the policy of DoD to make the maximum amount of acquisition-related information available," the directive broadly defines and then limits access to, and release of, virtually all planning, programming, and budgetary system data and source selection information.

The key consideration in this regulatory document is "the start of the acquisition process", a term that is not clearly defined or easily definable. In an effort to assure fair and equitable competition, the directive goes on to mandate that no further communication can take place between government and industry unless all potential offerors have equal access to the total substance of that communication. Interestingly, the people who are perhaps most affected by this provision are the mid-level government functionaries. They are highly conservative in their day-to-day activities to begin with, and rather than risk the possibility of an error in judgment that might later lead to a protest, the government essentially puts an end to the communication process.

No one could quarrel with the premise that critical information should be equally shared among all potential offerors. However, the failure to broadly disseminate threat assessments, planning

requirements, and funding profiles not only severs the DOD from valuable sources of contractors' technological information, but it also prevents defense contractors from getting the information they need to add to their data base for future planning. These limitations seriously complicate the ability of defense contractors to plan ahead and make appropriate long-term investment decisions and will, over time, further weaken the U. S. defense industrial base.

Finally, let us look briefly at the implicit affect of legislation on the open and free exchange of information within the Defense establishment. An appropriate example of this situation is the body of law that has come to be known as "revolving door" legislation. The objective of the laws is ostensibly to restrict a government employee's self-aggrandizement by preventing him or her from moving within the same acquisition program from government to industry. There are similar provisions restricting migrations in the opposite direction. Among the revolving door statutes are the following:

10 U.S.C. 2397(b)	Certain Former Department of Defense Procurement Officials: Limitation on Employment by Contractors
18 U.S.C. 207	Disqualification of Former Officers and Employees; Disqualification of Partners of Current Officers and Employees
18 U.S.C. 281(b)	Restrictions of Retired Military Officers Regarding Certain Matters Affecting the Government
37 U.S.C. 801(b)	Restrictions of Payment to Certain Officers
41 U.S.C. 423	Procurement Integrity

These statutes combine to apply a number of similar, but subtly different, prohibitions to groups of former military officers or civil service personnel. The applicability distinctions made in each provision are complex, overlapping, and duplicative -- in other words, very confusing. The laws do not directly inhibit communication as in the case of the Byrd Amendment, nor have they spawned inhibiting Federal regulations as the "Competition in Procurement" laws have done. However, confused people who are unsure whether or not they are affected tend to err on the side of caution. They communicate less information with less frequency to fewer people. These kinds of revolving-door limitations are consequently removing valuable sources of information from the process at the precise time when their experience and talent could be brought to bear on the very issues for which they have trained throughout their professional lifetimes.

It is important to stress that the examples provided in the foregoing are merely that. They represent the tip of the iceberg in a bad situation that seemingly worsens with each successive Authorization and Appropriations Act. A more complete listing of inhibiting legislation is attached. When addressing this list, it must be borne in mind that the list itself is relatively meaningless without an accompanying analysis of the direct, indirect, and implicit affects that each law has by itself and in concert with related legislation.

It is also important to point out that it has been beyond the scope of this paper to review in detail the more subtle affects

of the legislation. It is readily apparent that the Byrd Amendment is duplicative of the existing body of law on "lobbying" and that no one took the time, prior to its enactment, to determine the monumental administrative workload that it would entail. It is equally apparent that no matter how well intentioned the "Competition in Procurement" laws were at their creation, the side affects on exchange of vital information have been unanticipated and disastrous. Further analysis of the total phenomenon of inhibitions to communication would very likely reveal a widespread, similar condition.

In writing this paper, we had neither the resources nor the time to conduct an exhaustive analysis of the affects of recent laws on communications within the Defense acquisition process. Our hope is that this paper will stimulate sufficient interest in Congress and elsewhere to initiate actions that will eventually lead to a healthy exchange of non-proprietary information among Congress, the Defense Department, and industry.

One final point. Lawyers who are experienced in both the legislative and acquisition processes will dispute the premise that a communications problem exists. For each example that is given, they will be able to describe the techniques and pathways that will avoid the restrictions which this paper has described in the foregoing. Unfortunately, the vast proportion of the people who operate within the acquisition process -- the corporate executives, researchers, and engineers from industry and the engineers and project management team representing the government -- are not lawyers and they can't find these pathways. They have neither the time, the knowledge, nor the inclination to walk the precarious tightrope that might otherwise permit a free and open exchange of ideas. Instead, they are confused and intimidated and, to a great degree, have succumbed to the suppressive influences of extant laws and regulations.

We believe that an appropriate place to begin to remedy the current situation would be to hear firsthand from the people whose ability to exchange information is being suppressed. We would, therefore, suggest a series of hearings by the SASC that would address the issue with an appropriate cross section of industry and government officials. These hearings should include the middle managers, the same people who cause the process to function, and who are probably most affected by the existing atmosphere of confrontation and mistrust. As is the case in so many other aspects of life today, it is only when we recognize and admit that a problem exists that we begin the work necessary to bring about solutions.

Attachment

Attachment

OTHER LAWS AFFECTING COMMUNICATIONS

Public Law	Section	Provision/Title	Effectivity
99-661	943	Work Measurement	Oct 18, 1986
99-661	9105	Progress Payments	Oct 18, 1986
99-661	9105	Profit Policy	Oct 18, 1986
99-661	9105	Tooling and Test Equipment	Jan 15, 1987
99-509		Program Fraud Civil Remedies Act	Oct 21, 1986
99-634		Anti-Kickback Act	Nov 17, 1986
99-562		False Claims Act	Oct 27, 1986
100-180	810	Tooling and Test Equipment	Apr 2, 1988
100-180	821	Revolving Door Amendment	Dec 4, 1987
100-456	832	Proceeding Costs	Dec 27, 1988
100-456	833	Air Fare Rates	Jan 24, 1989
100-463	8141	Conflict of Interest - Consulting	Dec 29, 1988
100-679	6	Procurement Integrity	Apr 17, 1989
100-700		Major Procurement Fraud	Nov 19, 1988
101-12		Whistleblower Protection Act	Apr 10, 1989
101-123		Major Fraud Amendments	Oct 23, 1989

Chairman NUNN. That would be helpful. I would like to know what laws prevent people from talking to each other.

Dr. HICKS. Let me tell you a new one, as a person who has the terrible name of consultant now, and that is the Byrd amendment. Now, I am not a bit ashamed when I go to somebody and talk about things, and I am not ashamed to put it down in writing and do all the administrative work that has to be done. The contractors we work for are very nervous about this, because there are penalties involved, they want to make sure we are doing the right thing. The administrative burden is enormous, so there is a natural impediment to communication just because of the administrative problems.

Chairman NUNN. But that is outsiders talking to the Department.

Dr. HICKS. That is talking to the Department or anybody else.

Chairman NUNN. What I am talking about is within the building. You mentioned the CINCs' reluctance to talk to people within the building.

Dr. HICKS. No, what I am talking about is the people who understand how to build the system, and they generally are in the contractor area, talking to the people who have the military requirement. That is the problem and that is where we are getting this. There is no problem inside the building. I mean, there it is a different problem. It has nothing to do with the impediments; it has to do with the Army/Navy football game being played forever. [Laughter.]

But unless you start programs right and set up specifications right, they are never going to end up right. In theory, concurrency is a very good thing. As I point out in my statement, we are great on total quality management, so we think that is terrific; that means getting all of our problems solved.

But, you see, in a development of a complicated system, we cannot go serially in doing that. If we did it serially, we would be there forever. What we have to do, though, is to make certain we understand the problem and then communicate the problem, and have the proper techniques to try to avoid later problems when we test.

The Japanese are used very often as an example of how great things are done compared to the United States, and, as a matter of fact, it is true. And what they do is use concurrency to a fare-thee-well. There is a quote that I give in my report that came out of a book that MIT put out. I think it is a very good book called, "Made in America: Regaining the Productive Edge," and here is a quote from that: "the Japanese automobile manufacturers needed an average of only half as many hours of engineering work to make a new car from the conceptual stage to the point of market introduction, and they did it in two-thirds of the elapsed time. The Japanese advantage was attributed to three factors: a heavyweight program manager,"—which we very often do not have—"resolving conflicts about objectives and roles at the onset,"—that is, starting the program right in the first place—"and the pursuit of multiple development activities simultaneously." That requires management risks.

Concurrency really is one of the tools that people who build things have available to them, and management has to decide when to use it, and the people close to the program have to decide when to use it. I mean, they can tell whether or not there is a great risk, for example, in starting production early compared to when they had their testing done.

Let me tell you that things are improving in that area also. We have gone to situations now where you use simulation to replace physical tests a great deal. If you remember from previous testimonies, many of our modern systems, including the B–2, have a tremendous number of wind tunnel tests done on computers. A great deal of knowledge comes out of that. So, we have a great deal of understanding in the development phase about what we are going to find out in the operational test. We do that because we have vast experience and we have an enormous amount of capability now in our computers.

I think that Jack Krings would agree with me when I say that there is an incredible lack of understanding on the Hill about development testing and operational testing. We find situations occurring where a program is designed to meet certain specifications and the contract is written in that way, and it goes to production, and it starts the operational tests, and new requirements are imposed on that system. Not surprisingly, the system cannot meet the new requirement.

I can give you examples—not today, because they would just go out and cause a controversy—but we have canceled programs, frankly, because they could not meet specifications they were never intended to meet, because perhaps the thing was set up incorrectly in the first place. Very often that is the case. Requirements change, but even then the original system might have met a large portion of the military requirements.

What you have to do if you are going to build a system properly is to take those operational considerations and look at them very early in the program. They should be part of the original design of the program. You should have pilots from SAC, for example, sitting in simulators very early in a program to find out whether or not the cockpit is laid out properly.

What I am saying, of course, is that operational testing and development testing should be going along side by side. When you finally get to the point where you are coming up with actually a true operational test, an acceptance test, what you are looking for there are the unknown unknowns—that is, those things that you just could not, despite all your tools, your computers, your past experience, be able to spot. And those tests and those test failures are things we are looking for.

We should look for failures in tests. That is what tests are all about. But in this country we have gotten into a point of view that when a failure occurs either the builders are crooked or they are incompetent, and it is just not the way it is. After all, these are very complicated situations. In general, 99.9 percent of the people working on defense systems are honest, hardworking Americans doing their best honestly to provide a product. And you find that failures are there to tell you what to do. You might tweak something that you had done earlier. You can have a crack in a system you did not realize you would have, no matter what your program said. You fix it. And you may find things even complicated enough that you have to have an entire block change.

Operational tests should be testing a system in terms of its almost continual development, you might say, not saying that it is a pass or fail, and if things do not work, it is bad. You should know enough and the operational test director should know enough by being close to development tests for that development, that he is not surprised; he just recognizes that there will be things he did not think about that come out in the operational, real hardware tests.

Chairman NUNN. Are you saying that the whole culture of operational tests in this country—we are looking at the wrong things?

Dr. HICKS. I think so.

Chairman NUNN. We are looking at failures as if that is some indictment of the system, and we ought to stop doing it.

Dr. HICKS. You have heard me indict the present acquisition system a lot, Senator. My feeling is that we could save $20 billion a year if we had a different acquisition system. When I was Under Secretary, and John Lehman was very strong in fixed-priced development programs, I use to have a succession of CEOs come in to me and say, "you have to do something about this guy. He is going to wreck the country. He is going to wreck our industrial base. He is going to hurt everybody."

And my answer was, "look, you are a CEO of a company. Are you going to take this risk? All Lehman is trying to do is negotiate. He wants to have a fair deal for the Government. He wants to see how far you will go." You and I both know companies that bought fixed-price programs in that environment are near Chapter 11 today. I mean, it is the only game in town the way Jack said, and they bet their company, and of course a lot of them are no longer CEOs because they retired. They are out of it now. Somebody else has to pick up the problem.

Chairman NUNN. Is that because we do not have enough competition in defense or is that because we have too much, too many companies chasing too small—why is this the case in defense? Is it the case out in the commercial world?

Dr. HICKS. Part of it is. I think we have our whole setup wrong. You know, I have been trying to advocate for a long time that we attempt to go in a different direction. It will take a long time and it flies in the face of all kinds of problems, but if we could set up system specifications, that is, we want this system to have the following capabilities, and we want warranties, as Senator Exon has required in the past, and people are living with warranties. We could have warranties that demand that these things be met. Then let the contractor go do it, which is what we do in the commercial world, we would solve a tremendous number of problems.

The oversight micro-management problem that we have incurred in this situation, which is not helpful, which is harmful to getting good weapon systems out, would be resolved. But, we have to believe we trust people and we have to also say that if you do not live up to the warranty, there have to be enormous penalties for that. But we are never going to be able to approach the Japanese point of efficiency unless we go to operational specifications.

The kind of detailed mentality that we get in this situation now, as a good example, is a story that Larry Welch told me that happened on the F-15. The F-15, first of all, is the Air Force's pride and joy. It is a marvelous airplane. It also had, when it was set up and started, a design requirement to go Mach 2.5. Now, what happened there? Why do we say 2.5? Because somebody said the Russians are going 2.5. It was a situation we wanted to go fast and high, and so on. Larry Welch says he has never flown the F-15 more than 1.8 ever, in any kind of operation.

When the program was finally brought to conclusion in its operational test environment, it only went Mach 2.45. It would not meet the specifications. Now, rational people in a rational country would say who cares; it does not do anything to your military capability of any consequence. But because of the kinds of mentalities we have in this situation, the program manager insisted that that program go to 2.5, and it did at the cost of additional several hun-

dred million dollars. Now you just put that into an enormous number of purchases we do at all levels, and it is pretty easy to see what our problems are.

Chairman NUNN. When you say operational specifications, I understand your example, but I am not sure what you mean an operational specification is compared to what we do now.

Dr. HICKS. What we do now is we have specifications out the kazoo on every little nut, bolt, and everything else. Now, the contractor still will have to worry about that, and I am in favor of him doing it, but he is the one who understands the hardware well enough to know when he can accept the items. Let me give you an example.

Chairman NUNN. In other words, we ought to have broader specifications of performance and not all the details?

Dr. HICKS. Exactly. We should say, look, we want you to bring something in that does the following things. Now, how you get it here, that is your business.

Mr. KRINGS. There is the challenge. As you broaden those goals, to try to say what the mission requirement is and keep the goals rather broad, we get into this terrible litigation situation as to what you have achieved and what you have not achieved. The more we have that climate, the more difficult it is to argue whether you have achieved an operational capability or not, as opposed to saying it is going to weight 45,286 pounds. Anybody can figure that out.

Dr. HICKS. Senator, let me give you an example that is in my recent experience. I am on the board of a small company that makes wind screens for fighter aircraft. Now that sounds simple, I thought. I did not realize it was complicated, but it starts out with a petrochemical tank coming in, and you know the kind of plastic involved and the way they handle it is very, very complicated. So you have a design specification come out and it will say—you know the engineers are human beings; they only have so much time—they put a specification out that this windshield is supposed to be optically pure, and they want that because of heads-up displays issues and so on, has to take a 30-pound goose at 450 knots, and all this, so there are a bunch of specifications that look reasonable to the engineer as he sets them down.

Now, when you make that windshield, that deal, it is very, very complicated to get all the distortion out of it. In fact, it is almost impossible. Maybe one out of 10 or 20 of these things actually ends up that way. Now, in the old days—this is what I call the pre-last 3 or 4 year days—rational people in the service who would look at these things—the pilot who had to use it—would see some distortions in the lower corners and say, hey, that has no bearing on this military requirement. It will meet the operational requirement. It meets the safety requirements. There is nothing that is a problem here. We accept it. Okay.

Now, you get DCAS in today. This guy from DCAS is making $25,000 a year and he is not going to stick his neck out for anything, and he is looking at those specifications that say optically pure, and, by God, he is not going to accept that one unless it is optically pure everywhere.

Well, you can see what that does to the cost of that wind screen. Then what has to happen is, you have to go back and change the spec, try to get it changed through the system, which means through the prime, through the customer, it takes a year, 18 months, to get that thing changed, so that the engineer words it so carefully that now this guy down below has to say, okay, now it says it is okay, I will not go to jail if I accept it. By the way, he will go to jail if he accepts it the way the specification is written today.

If you multiply that by the things that we have in the weapons systems, because of the detailed testing we are doing, because people do not understand the hardware but have to live with the words, it is a pretty easy understanding to see how many people you can eliminate and what an enormous amount of money you can save in the acquisition process by going to an overall operational specification.

[The prepared statement of Dr. Hicks follows:]

STATEMENT BY DONALD A. HICKS

CHAIRMAN, HICKS & ASSOCIATES, INC.

It is a pleasure to be here to offer my views on concurrency in the acquisition process. This Committee is to be commended for the deliberate and measured approach that you are taking to the broad topic of reform of the acquisition process.

Our acquisition system is an extraordinarily complex combination of military requirements, technology, economic and industrial base considerations, laws, policies and directives, and many other intangibles, an interaction that is not amenable to piecemeal attempts at reform or streamlining. Each aspect of the process has a relationship to the others, and though we may believe, with all good intentions, that we are fine-tuning one particular facet of that system, too often we fail to recognize or anticipate the negative effects on the process as a whole. In my judgment, it is only through the comprehensive consideration of the entire system that we can succeed in streamlining the parts.

This brief prologue applies particularly to the topic before us today -- concurrency. To understand both the positive and negative aspects of concurrency, as well as its value in the context of today's changing security environment, it is necessary to examine it in relation to the function that it performs in the acquisition process.

The fundamental rationale for concurrency is to permit the deployment of a weapon system efficiently, cost effectively, and in a timely manner. It involves the performance of many of the myriad tasks involved in fielding a weapon system on a simultaneous or parallel basis, rather than addressing each of these tasks on a sequential or serial basis. Theoretically, the more concurrent a project is, the less time it takes, the less costly it becomes, and the quicker it is in the field actively contributing to our deterrent posture. In practice, concurrency is interrelated to many other management considerations so that the degree of concurrency is a matter of management judgment involving tradeoffs of cost, risk, and schedule.

This latter point -- the management of tradeoffs among cost, risk, and schedule -- is, in my judgment, key to your consideration of the issue. Concurrency is a management technique and, as such, is simply a means for accomplishing a task more efficiently and cost effectively. If there are negative aspects to concurrency, they are therefore the consequences of unforeseen management problems, changing requirements, or interference with the management process, not a result of the technique being flawed. There are a multitude of examples of concurrency being used to great advantage in achieving our national security goals, just as there are examples of the technique being used inappropriately. I suspect that if you were to analyze each case individually, you would come to the same conclusion that I have: namely, that concurrency is an effective tool that is an essential part of program management. The key to its utility is to determine our goals for its application and then to allow the individuals with direct responsibility for the program the freedom to make the decisions necessary to achieve those goals.

Like all good management techniques, concurrency has inherent flexibility and adaptability. The manager has a choice of the degree to which he applies the concept. At one extreme, he might

wish to perform every task concurrently, but as the overall acquisition process clearly recognizes, there are certain milestones that must be met before proceeding on to the next phase of the project. At the other extreme, the multitude of the tasks within a program could be stretched out to the extent that the objectives of the program can never be met. The compression or stretchout of concurrency within a program must, therefore, be a reflection of the overall program goals and the day-to-day judgment of the program management team.

To illustrate the importance of program goals, let me refer you back to the "missile gap" that galvanized the nation behind the ICBM program in the initial days of the Kennedy Administration. The perceived emergency at the time precipitated an extraordinary level of peacetime cooperation between government and industry which closed the gap in a matter of a few years, an achievement that might take two or three times longer under today's acquisition process. There were three prominent features of this application of concurrency which made this possible: adequate and stable program funding, management freedom to make proper program decisions, and a tolerance for failure in the test and evaluation phase. While engineering design and both development and operational tests were going on at Cape Canaveral and Vandenberg AFB -- including a non-trivial number of launch failures -- the operational sites were under construction along the northern tier.

Some might say, in retrospect, that the development and deployment of our early ICBMs could have been accomplished less expensively. However, at the time, cost was a secondary consideration and, in fact, the program effort may have been less expensive because of the rapidity with which the systems reached the field. The overriding goals were to overcome the risks and put operational missiles into silos and onto launch pads. Without concurrency, these goals could not have been accomplished anywhere near as quickly as they were. Had the goals been different -- to optimize cost, for example -- there was adequate management flexibility in the technique to achieve those objectives as well. But it was not concurrency alone that made the achievement possible. The proper environment in which to apply this management technique was of parallel importance to this success.

It is important to contrast this achievement to the way we acquire weapon systems today. This is most clearly illustrated in terms of the conduct of development and operational testing. In the ICBM program, the two levels of testing proceeded simultaneously, often using the same launch to prove out the design and determine its operational feasibility. The launches, whether successes or failures, were used to uncover faults, to determine the corrective measures to overcome those faults, and then to feed back these corrections into the engineering design. There was a free flow of communication and open cooperation between the design and production engineers, between industry and the government, and between the developers and the operators.

Today, all too often, we find few of the same conditions and circumstances. Systems are designed to one set of criteria -- frequently without giving sufficient consideration to determining the reasonableness of requirements and specifications -- and then are tested against another set of criteria. The process is intolerant of failure; and rather than finding the faults and correcting them, a program faces condemnation if the first test article does not perform to perfection. As a strong advocate of the "fly before buy" approach to system development, I am compelled to point out that our collective attitude today toward testing in particular is, at best, counterproductive. We have a

great deal to relearn from past successful applications of concurrency in the proper environment.

Having given my view on the proper role that concurrency plays in the acquisition process, let me move on to the question of its place in this current year budget request. It should be clear that I view concurrency as a valid management technique that has an important part to play in not only current developments, but in future program management as well.

Last month, Under Secretary John Betti's report on the degree of use of concurrency was sent to the Congress. While this report approached the subject from a somewhat more technical and programmatic standpoint than my statement has, we are in close agreement on our overall view of the contributions of this management technique to the acquisition process.

In his cover letter, Mr. Betti mentioned that there were a number of programs that might "have a greater degree of concurrency than we would like". I suspect that this might have been said in hindsight; and if we were to go back and examine the rationale for the degree of concurrency introduced to the program at the time, it would still be valid. Chances are also good that such an examination would show that some other factor in the tradeoff among cost, schedule, and performance would have been sacrificed. The application of concurrency is a matter of judgment in a dynamic environment.

This idea raises a related issue that was not necessarily an appropriate topic for Secretary Betti's report, but one that is important in terms of my meeting with you today. The prerogatives of management would be severely restricted, in my opinion, if there should be any attempt to legislate or regulate when and to what degree concurrency should or should not be applied. With all due sensitivity to the prerogatives of the Congress, it is my firm belief that any attempt to govern the use of this or any other effective management technique would be a serious error. The Congress can and should share in the task of determining the objectives of a weapon system program and the priority that each program should have in the competition for our national resources. However, I hope that this Committee, after prudent consideration, will avoid any greater involvement in the day-to-day management process.

It is interesting to consider the use of concurrency in the commercial sector of our economy. Concurrency is considered to be one of the more important contributors to the success of many commercial enterprises, particularly the Japanese automotive industry. A significant number of the management studies which have compared the Japanese and American automotive industries have cited the greater use of parallel development, testing, and production activities by the Japanese as a central factor in their exceptional competitiveness.

In the highly regarded book, Made in America: Regaining the Productive Edge, the insightful report of The MIT Commission on Industrial Productivity, the authors make a number of critical observations on the importance of concurrency in its proper application:

> "The Japanese automobile manufacturers needed on average only about half as many hours of engineering work to take a new car from the conceptual stage to the point of market introduction, and they did it in two-thirds the elapsed time. The Japanese advantage was attributed to three factors: a 'heavyweight'

> program manager; resolving conflicts about objectives and roles at the outset; and the pursuit of multiple development activities simultaneously."

By contrast, the authors had this to say about the automotive industry in America:

> "Their product-development times are excessively long; they pay insufficient attention to manufacturing processes; they take a reactive rather than a preventive approach to problem solving."

And finally:

> "The Japanese firms are able to achieve almost complete overlap of product and process engineering. Much flexibility is needed because of the inevitable changes on both sides as the design proceeds."

Though the word, concurrency, is not used in any of these quotes, they clearly describe the technique being properly applied under exactly the right circumstances. The theme taken by the MIT Commission is repeatedly echoed in most meaningful studies of the competitiveness of American industry: concurrency, in the proper management environment, can be a most effective tool.

By way of both summary and conclusion, I would like to restate the main ideas that have been interwoven throughout my opening statement. In my judgment, concurrency is a highly useful management technique for effecting tradeoffs among cost, risk, and schedule. Its effectiveness is primarily conditioned on the circumstances under which it is applied. To be effective, a number of preconditions must be recognized. Paramount among these preconditions is a determination of the goals that are to be achieved in the system development. Second, the program must begin properly with a thorough analysis of requirements, risks, and specifications. Only when the full scope of the challenge is appreciated can the development proceed properly.

Next, the management environment in which the effort is conducted must be conducive. This includes open communication among all parties, the flexibility to adapt essential changes as the program proceeds, and the management authority to make the necessary day-to-day program decisions, free from intrusive oversight.

As a last precondition, it is most important to achieve an understanding in the government, the media, and industry that it is essential to be more tolerant of failure. It is unreasonable to push the leading edges of technology to the maximum and then expect perfection in the development and operational test programs. The present attitude of intolerance serves only to denigrate while the proper approach, in my opinion, should be to seek out the faults in a system and correct them as the program proceeds.

Finally, if we are to achieve the benefits that concurrency can offer in the acquisition process, it should be evident that the tool is not adaptable to legislative or regulatory governance. I would urge this Committee to create the environment in which concurrency can be used as an effective management tool, and leave the judgment of if and when it is to be applied to those in government and industry responsible for producing the system.

Thank you very much for your consideration of these views. I am now prepared to respond to any questions you might have.

CHANGES IN LAW FOR OPERATIONAL SPECIFICATIONS

Chairman NUNN. What has to be changed in law, Dr. Hicks, to go to operational specifications?

Dr. HICKS. Senator, I am not an expert in that. I do not know how much of it is law and how much is regulation. I used to try when I was in the Department to get a lot of these detailed specs eliminated. There is an enormous number of people involved in this situation. It is just like our auditing situation, and we have an enormous number of people involved there. There are incredible constituencies of people who do nothing but set up standards, and there is enormous resistance to changing that.

There has to be some great leadership at the top. There has to be a combination of true leadership in Congress and true leadership in the administration, to get together and solve that problem and look to see how much the laws have to be changed and how much the regulations have to be changed. I would believe that probably the biggest fault is administration in general, because I have seen so often that regulations come out and you will ask why, and a person will say, "well, you know, if we do not Senator so-and-so is going to pass a law." There is a lot of pre-law stuff that goes into regulations in that department that is totally unnecessary.

Chairman NUNN. It is not hard for Senator so-and-so to make a speech, but it is darn hard for him to pass a law. Our system is not such that people can pass laws quickly.

Dr. HICKS. There is an awful lot of stuff that gets into conference reports that has the impact of law.

Chairman NUNN. It does, I acknowledge that, but it would be very helpful to me to see—I hear all these problems. I have been hearing them for years. I have now asked for at least 7 years for the Defense Department to come over and give us a few test programs where we could waive everything except discrimination and some very basic foundations of law—four or five of them—and let us test them. Waive everything else. But we do not have people come from the Department and say we need to change this law, this law, this law, and this law.

Dr. HICKS. I do not expect you would, because most of them have reasons for wanting it to stay the way it is. It is their job.

Chairman NUNN. I would like for staff, if they would, to try to get for this committee a list of those things that would be in law now that would require the degree of specifications that we are hearing, whether that is law or regulation.

Dr. HICKS. I think most of it is regulation based on what is the perception of what the law says by the Department.

Chairman NUNN. The expectations on Capitol Hill—I think it may be the culture, or the expectations and the whole circle of reporting and that kind of thing, more than it is the law.

Dr. HICKS. It is a culture that has developed over years. Those of us who were in this game many, many years ago, it is almost hard yourself to recognize. It is like watching a child grow. You do not really see him growing, and then you look at a picture when he is 3 months old and now today, and you think, God, I can't hardly believe it.

Mr. KRINGS. I have to take issue with your argument. The good old days were not all that good. If you ever have a chance to go back and fly an old airplane, which I do once in a while, you find out what trash we put up with years ago, and the quality was very, very poor. When I was giving a speech a number of years ago at a military operation, this fellow came up who was in World War II, he was the one who used to go around and pick up all the tanks that did not work, and he said increasing the volume just gave him more business.

But clearly, the quality of the products that we put out years ago nowhere near approaches the quality of the products we put out today. We have raised our sights very high. Unfortunately, in many cases we have raised them too high and we expect the first product to come out of the box to be perfect. Therefore, when we test and we have a failure, everybody says we failed, when in fact we are learning. But we did not say we were going to learn. We said we had already learned, and we are going to produce them in a mature state, that we are really verifying rather than experimenting.

When we find a problem, it is not the fact that we should not have found the problem and that we should not allow people to find problems, we should not advertise first that there are not going to be problems and construct programs in time and money that do not accommodate the fact that there are problems in there and the goals are to try to find them.

I think that we have progressed a lot. It is unfortunate that the legal side of it has gotten sometimes more dominant than the technical side, but still the technical side is progressing. But without cooperation, starting with Congress, going to the Department of Defense and going down to industry, we will always pay this additional burden. As long as we are negotiating between ourselves and competing with ourselves it is bad enough the taxpayer just gets ripped off, but if we have to go into international competition, we will never be successful until we get rid of this mistrust between each group.

Chairman NUNN. I think Congress plays a big role here, but the way that Congress acts, Congress legislates and when somebody says you have to change Congress, somebody has to say what law has to be changed. We do not execute. We do not give regulations, details. We might write letters, but if congressional letters are running the building over there, we are in worse shape than I thought when most of them are not even paid any attention to. So I think that we have to be told what laws are impeding this.

Mr. KRINGS. I think you could create incentive for the Department to improve themselves. Hopefully we are not looking at Congress to tell the Department of Defense how to do it, but what they want the outcome to be. The outcome is an improvement and a mechanism to measure the improvement, that is where the discipline comes in.

You can write a law that says you must improve something, but clearly you have to go back and measure what we are doing now and how much better it gets, I think that is the key issue. If there was any legislation it would be in telling the Department what to achieve, not how to do it, and a mechanism to determine whether

the progress is being made and they can determine the progress that is being made, because the progress is available. People know how to do it better. They can do it better. It is a case of making that incentivized or required.

Dr. HICKS. I would like to make a comment, Senator. I do not want Jack's comments to take away from my point. We used to build Model Ts. They did not run anything like as good as the Infiniti. The point is, the culture has changed in a bad way. Of course the hardware is better. The technology has grown. We have newer machines to make things. Clearly, we do a lot better job across the board. I am not talking about that. We are able to build a 2.5 Mach F-15 instead of a Spat fighter.

The real issue here is the culture in which we are building those things. That is what I am talking about. It has nothing to do with our ability to progress, to have higher manufacturing efficiencies. It would be better to look at the way we do things in the Department versus the way we do them in the commercial world, if we had to look at it at all. Or if we wanted to really do it, look at how the Japanese do it in terms of their approach to these problems, compared to what we even do in our own commercial situation, in which we are now getting very competitive in trying to close that gap.

Sure we have better stuff. It is a lot better stuff. It is better quality, and the conditions we impose on these things are important to do. It has nothing to do about the culture in which we impose those things. It has nothing to do with the fact that if we had an operational specification it also includes things like reliability, maintainability, all of the things that we should come to expect from a properly-built weapons system, and allow people to understand the hardware, to find ways of doing that, and to ignore things that had no impact on it.

LEVEL OF CONCURRENCY IN THE SSN-21

Chairman NUNN. Mr. Krings, you state in your testimony, "we should reduce concurrency in most of our major acquisition programs not because of policy, unfulfilled ambitions, or reduced urgency, but by objectively assessing the ability to achieve concurrency."

You went on to note that few program managers and defense contractors know how to manage concurrency. Let me give you some examples that we will have to decide on. Let us say we take your philosophy. Let us say we try to apply that in this year's bill. The GAO noted that there is almost 100 percent concurrency in the SSN-21 program. Does the track record on submarines and submarine combat systems justify that level of concern of concurrency in your judgment, and if you have not made a study of that particular program, tell me how we are going to make that judgment?

Mr. KRINGS. I am very familiar with the SSN-21 program and I think it embodies most of the problems that we see today. There has been a cultural change—small, but some cultural change—in the acquisition process of submarines and naval vessels. It used to be more of a "we do not know anything until it is actually tested at

sea," when in fact there are a lot of things that we know before it is tested at sea, and so therefore we would make sizable investments before we had tangible evidence of our success.

We are now, and the Navy and others, looking much more closely during the development cycle, as Don said, and we are trying to make objective assessments during the development cycle as to whether or not these commitments should be made. There is an effort, which could be strengthened, to establish a progressive award mechanism in the acquisition of surface and submarines that will allow us to not make as big an investment as we have in the past without the knowledge of what the success will be.

If one were to go up and look at the SSN-21 program physically and then go look at the same major company's ATF program, you would find a spectrum of technology and approach to concurrency that is so broad it is unbelievable. General Dynamics builds both, and if you look at ATFs and you look at submarines you will find that the culture is so different. So I think that we could improve it.

At this point in time, I am not familiar enough with where we are in the acquisition cycle, how much we have actually committed to the SSN-21, but I think that there are ways that we could be more sure, under the current structure, of what we are investing, than we possibly are today, we could exploit that a little bit more. I might add, in the case of submarines, also, the most significant investment we could possibly make is to incentivize people to be able to build surface vessels and submarines faster.

It costs us an enormous amount of money because of the length of time it takes to design and build a submarine. Years ago we did not think you could design a car in 18 months. You can do it. The incentive was there. So I think if you could incentivize the shipbuilding industry to be more contemporary and do things more quickly, it is not easy but the pay-off is astronomical, we would not have to do it as concurrently as we do today, because we would not have to have the long lead times that exist.

Chairman NUNN. My time has expired. Senator Warner.

Senator WARNER. Thank you, Mr. Chairman. At this time, I will submit my questions for the record.

Chairman NUNN. Senator Glenn.

KINDS OF OPERATIONAL SPECIFICATIONS

Senator GLENN. Thank you, Mr. Chairman. I am finding this fascinating. I wish we would do more of this. I do not know where we move and what we do, though, once we get done with this. We are having a good session here restating the problem, at least, that we have talked about a number of times before and I guess that is the first step.

Back to the operational specifications just a minute. I would submit there are two kinds of operational specifications, Mr. Chairman. One, where a combat commander, a CINC or someone, sees that he has an operational deficiency—in other words, he has a fighter plane out against him that is going to provide air superiority that he cannot match, and so you wind up with something like the F-15 that has to go through on a much higher priority basis because we have an actual deficiency out there—we are going to

get shot down if we do not get something that will keep up with them and get back in the battle again.

But a second area that results in operational specifications is something like the B-2, where we make a scientific advance and we have the research people out there and they see that they can give us a capability that gives us superiority in a certain area, and that one quite often I think can be taken care of on a little bit different basis, a little longer term basis.

Specification writers are another problem that we have dealt with. That has been around for the last 50 years, problems with the specification writers. In my observation of the aircraft industry in particular, for many, many years, I agree with Mr. Krings that there is not anything that is going to replace the good judgment of a manager, and I am wondering whether we will ever have a procurement system that replaces the individual judgment, and that is what we are trying to do, set up a system that is foolproof when really we need to be emphasizing the good managers out there that can do the job. Has anyone ever considered just assigning a project to a good manager, he has authority to run it, he also writes the specifications for that project to comply with an operational requirement? Now, that would be a dramatic change. Has anybody ever thought of doing something like that?

Mr. KRINGS. That has been done, especially some of the programs in the black world.

Dr. HICKS. That has been done in Polaris. I will tell you, that was an interesting program. If you want to study a program that went well, that is a program that you should study—a lot of concurrency, a lot of everything like the things we are talking about today.

Senator GLENN. They wrote their own specifications?

Dr. HICKS. They wrote their own specifications, but also they ignored oversight. They were given the right to do their own thing, and there was very little outside interference with the people who knew how to build the hardware, and that program went through very rapidly and very successfully.

Senator GLENN. The second point, I am not sure I agree completely with the Japanese example. They are more efficient in the usual things like automobiles and things like that for a lot of reasons that we could get into in detail. I am not sure, though, that you can quite liken it to our procurement system for highly technical equipment that we have here, because it is a little like putting a requirement on the Japanese, the Infiniti, you say well, it has to go 90 miles an hour in 5 seconds, or you die. [Laughter.]

Dr. HICKS. That is a bigger incentive, all right.

B-2 CONCURRENCY

Senator GLENN. It is a bigger incentive, and so it is a little different emphasis on what we are doing here. Or they design a car and they are relying—they go concurrent, and they can do that, but you say okay, we do not have an engine, an old engine we can leave in this thing. But we need a new engine. Now, we are going to design the automobile, we are going to spend all the money, but we do not have that engine, and if you do not get the engine for it,

why, there is not any project at the end of it. So I am not quite sure the analogy holds all the way through.

What we are talking about are the additional costs of changes. That is what we tried to avoid on the B–2. If we had a perfect design, all we would do is do the simulations and away we would go, but we know that that does not work, and we were sold a bill of goods to some extent on the B–1 because we were told that it had the most testing of any airplane ever brought down the pike, and we were told we had had some problems then.

We were told the same thing on the B–2. We went to concurrency on the B–2 largely on the basis that it had more testing, more wind tunnel time, more simulation time than anything that we were ever going to out into the air, and we know that we have never had a program that you could go that concurrent on, and we were so caught up in this thing that we went to procurement before we even had the first flight. We were off and running with the thing—low rate, and going to the next—and it was only last year here that we held up a little bit on that thing and we are still awaiting the answers on some of the LO and the aerodynamics on it. We do not have the answers on that yet, so I do not know what we are going to do when we mark-up here one of these days.

I do not know whether there are any new approaches on this. I think the best programs I have seen through the years have been the ones where we did what Mr. Krings is talking about. You put a manager on it, you gave him a lot of authority, and then he rose or fell on what you did on what came out of that program. Those are the ones that seemed to move ahead best; and the ones that are all fouled up, all screwed up, are the ones where we have multiple responsibility like the B–1, and the Government is going to manage it, and you have four components, or whatever it is, and one fails and something else, and it is all tied down with multiple specification writers that want to cover their own tails over here, mainly, so they are never criticized for underwriting a specification. That is the problem. Nobody ever got chastised for over-specing something that I have been aware of, anyway. Maybe that is the problem. So I guess those are more comments than they are questions.

Chairman NUNN. Senator Glenn, would you yield for an observation on that point without losing time?

Senator GLENN. Of course.

DEFENSE ENTERPRISE PROGRAMS

Chairman NUNN. Four years ago we established defense enterprise programs. These programs could waive any regulation or rule that was not required by statute. That is what we came up with. The Department of Defense directed all program managers to say what they wanted to waive. There were 3,000 rules, regulations, and reporting requirements. They decided, the program managers in the Department of Defense, that there were only 11 that were not needed out of 3,000. Guess what? All of them were congressional reports for the SARs. In other words, they wanted to drop the 11 reports by Congress, but they did not object to the 2,989 rules and regulations imposed by the Department of Defense.

Dr. HICKS. You did not ask the contractor what he would do, Senator, that is the trouble with that situation.

Mr. KRINGS. It sometimes represents a corporate assessment of what the program manager said, and so I would think that if you had a chance to ask a former program manager, he would probably come up with a lot more, but they do not necessarily make it through the system. The final list that you get, I am sure, has been "improved" a lot from the first list that may have been created by the program manager.

Chairman NUNN. Everybody up the line involved in this wants to protect their own report.

Dr. HICKS. You bet.

Mr. KRINGS. Right.

Chairman NUNN. Including Congress. We did not waive the 11. [Laughter.]

Dr. HICKS. Nobody waives anything any more, Senator.

Chairman NUNN. I think we would be more willing to do it. We hear all this micro-management business, but we are all in a vicious circle on this. The system you have described lends itself to the lack of confidence. The less confidence we have up here the more we are going to get involved in the process. That is just the way the thing works, unfortunately. But we did try to make a breakthrough on the enterprise programs, and there was unwillingness to run with it over there.

CHANGES IN DEVELOPMENT AND OPERATIONAL OFFICES

Senator GLENN. Just a couple more comments and a question here. Both of you have been in this business for a while, and I hate to suggest rearranging the deck chairs here, in effect, but are there any changes needed in the way the Department of Defense development and operational offices are organized? Are they overlapping, or do we need changes there? Do we need to just go to better managers, as we talked about a little while ago, or are there some system changes that we need that would expedite the program?

Mr. KRINGS. My view is there are changes that could be done. Anything can be improved.

When Don and I were in the building, Dick Godwin created the structure, the architecture of the Defense Acquisition Board I think is adequate for now. I will not say it is adequate forever, but it is adequate for now. The key is the discipline and how well it is done.

If you have a committee that is going to report to a Defense Acquisition Board, and the Defense Acquisition Board is going to act on the recommendations of that lower committee, which is generally staffed with people who are closer to the problem and understand it a little better, the whole key is whether the discipline exists in the system to really bring to task those promises that were made in the past. So it is not so much the structure. It is clearly the discipline.

REDUCTION IN OVERSIGHT

Senator GLENN. One final question. These split programs, where there is some responsibility in the Government, some responsibility

is on the contractor, something like that, should it not be that you give the contractor authority to meet an operational specification requirement and let him go at it under very close supervision? We used to have all sorts of people out there, Government people, living at the plant, monitoring what was going on all the time. I think we have cut down the numbers.

Dr. HICKS. We have a lot more now—a lot more bodies.

Senator GLENN. Are they the same kind? Are they the same engineers, or the same capability that they used to depend on to monitor those things and the system seemed to work better?

Dr. HICKS. The example is the engine. G.E. will tell you that they have in a military engine, 50 some inspectors in the plant from the Government, and when they build them for a company, they once in a while get an inspector from the company.

Mr. KRINGS. I think the intent of the present people in the Department of Defense, Atwood and Betti especially, is to try to do that. I think they have every intent to do what you are saying to reduce the oversight.

There is an old sign, and I am sure you have seen it in a gas station many, many years ago, that used to say, "Labor rate is $5 an hour, and if you watch it is $10 an hour, and if you help it is $20 an hour." That is a perfect example of what has increased the cost in many cases. I think the people who are there now are trying to reverse that, but being there for only 6 or 8 months, it is hard to get things to change so quickly.

Senator GLENN. We used to joke with the contractor that they ought to give us the airplane for free, because they live very well on the change money. Nothing has changed much.

Dr. HICKS. None of them are living very well right now, Senator, I will tell you.

Senator WARNER. Mr. Chairman, could I interject with a question?

Senator GLENN. My time is up.

Chairman NUNN. Yes, sir.

B–2 CONCURRENCY

Senator WARNER. Just one question. Dr. Hicks, we are fortunate in many ways to have your testimony. I have been reading through here and apologize for being late. Let us take an example of a program which will be of major consideration in the current authorization bill, and that is the B–2 program. You have worked on the B–1. You saw the problems with concurrency there. Do you foresee problems of concurrency of a magnitude which we should correct with the B–2?

Dr. HICKS. You know, Senator, there is a lot of confusion there. First of all, the B–2 has much less concurrency, even with the 132 program, than the B–1 did, and Senator, I think you may have seen some of these, but there was much more concurrency in the B–1 than there was in the B–2.

Senator WARNER. That would be the B–1B.

Dr. HICKS. The B–1B had much more concurrency than the B–2, even with the original program. Of course, with this new program that the Defense Department has put out, that concurrency drops

even more. The question about saving money and so on, how that has impacted, is a different question.

The other thing about the B–2 was it came at a time historically, technically, that was very helpful, and it has a common database for design and manufacturing areas. You remember, the first article had to be so accurate that in fact it was a manufactured article and there are some disadvantages to this you could think of, if it were wrong. We will have to have all the tests to make sure we do not have to have corrections, and there certainly will be some, but we had such a mass amount of simulation data, and so on, that I do not think most technical people feel very nervous about the risks involved in the operational tests.

Some of the things we cannot talk about in this hearing, in terms of that issue of tests and concurrency. I believe there has been some information given to the committee recently by the Defense Department that I was trying to get them to give for a long time in terms of physical tests, in terms of the LO problem, which I think again take away a lot of the concern that the Senate would have in terms of performance, but basically speaking we are at a position on the B–2, because of all of the simulations, all of the—what we used to call our flight control. What is the word we used to use, Jack—iron bird. We have improved iron birds. These are all now digital.

We are really able to put the systems through an enormous amount of tests in the factory area. We know so much about it. For example, if you talk to the pilots that flew the B–2 initially, you know they had been trained in the simulator. They found the performance was almost exactly the same. In fact, if anything it had a little bit less ground effects than the simulator showed. So there has been an enormous amount of work done that I think eliminates the problem of concurrency that did exist.

Senator WARNER. I think you have answered my question on the B–2. We do have that simulation capability well-advanced in aircraft, so let us exempt your answer for the B–2. I presume you do not, in your professional opinion, think we had a level of concurrency that has created too high a level of risk in that program?

Dr. HICKS. I do not, and I think with this new program it is not even a subject.

SUBMARINE SIMULATION CAPABILITY

Senator WARNER. Fine, then let us shift to a submarine program where you do not have quite the simulation capability that you would hope to have.

Dr. HICKS. I am not an expert there, and I would rather have Jack answer that. My feeling is, they could have. They could have the same kind of simulation.

Mr. KRINGS. I think Don and you have hit it right on the head, Senator, not all disciplines or all weapons systems disciplines are at the same level of technology. There are many systems—a perfect example, along with submarines, is tanks. Tanks used to be integrated at assembly. The independently-developed parts arrived and they bolted or welded them together in production. System integra-

tion did not even exist up until just a couple of years ago in ground vehicles and ground systems.

If you look at the submarine development of the SSN–21, again, as I mentioned, by the same company that is building the ATF, and you look at the two levels of simulation, looking at engineering before it is actually accomplished, you will see a vast difference in the approach. I think that more could be done when we try to do simulation in operational testing of submarine products, torpedoes, and submarines.

We tried to do an SSN–21/torpedo early operational assessment, before we had the devices, trying to link up simulations to project whether or not these submarine systems would be successful, to try to get some insight before we spent a lot of money. We found that it was extremely difficult to do. Submarine systems had not reached the maturity level that we see in airplanes and missiles.

Senator WARNER. I thank you very much, and for the record, Newport News Shipbuilding and Dry Dock also has part of that program. You make references to the firm north. There is one south.

Chairman NUNN. Senator Exon.

EXCESSIVE CONCURRENCY IN BID PROCEDURES

Senator EXON. Mr. Chairman, thank you very much. Gentlemen, welcome. I have listened with great interest to your excellent testimony today. Just let me give an editorial comment or two.

Some time ago I made a talk on this whole matter of procurement. I had a copy of I believe the first military aircraft that the U.S. Government ever bought, and if I remember correctly, it was a one-page set of specifications that in layman's terms put out bids for a military aircraft that would fly from point A to point B at about a such-and-such miles per hour proposition, and had to be reliable. That essentially was all the contract was. When you compare that with the 200 and 300 pages we go through today and all these specifications, it is pretty obvious to me that we have gone way beyond due bounds and have almost written our specifications to the point where we discourage competitive bidding rather than encourage it.

My question is, if the two of you believe, as I think you believe, that we have too much concurrency today in our bidding processes, do you believe it would be possible for the two of you to sit down and work out a bid procedure to be generally followed that would be much less restrictive and better understood and free of all of the complicating cost increases that seem to be built into most of the contracts for bids that we put out these days?

Mr. KRINGS. Don has a lot more experience in the contract end of it as opposed to the testing end of it. I think if we were going to ever have done it in our lifetime we are probably in a better political position to do it now than we ever have.

Dr. HICKS. I think it is a terribly complicated problem, and as we said earlier, Senator, the culture is something that is going to take a long time to change. There are many extremely good people in the Defense Department who do good jobs and know what has to be

done. It is just a question of trying to get all those forces together to go the right way.

It is the old story. A good example of the issue—and this Department blames Congress for this, whether it is right or wrong, this issue of competition—a need to compete. You know, there are two things that came out of that. One is that what we really were looking for there is savings to the taxpayer, and if you go to a competition advocate's meeting and you listen to what they have to say, all they talk about is percentages, of how they have improved the percentages of the contracts that are now under competition. Nobody says how much we did to save the taxpayer money, and if you look at those things individually very often they actually cost the taxpayer money.

So you know, the need to—it is like most things. Intelligent management, people have to be given the flexibility on the scene to intelligently decide. Now, sometimes you are going to have a crook. You catch the crook and put him in jail, but you do not put up laws and regulations that everybody then is unable to use management judgment to do something right with.

B–2 FENCING PROVISIONS

Senator EXON. Let me go to a specific program and get, if I can, your viewpoint. Let us talk about the B–2 program, which is uppermost in most people's minds today. In fiscal year 1990 you will recall we put in several fencing provisions for expenditures of funds on the B–2 to make sure that certain guidelines and tests of effectiveness were carried out before the money was expended. We have now been advised that the block 2 testing of this aircraft will not begin until late this summer, giving Congress very little guidelines, leaving us up in the air as to what we should do with regard to fiscal year 1991 budgets on this program. What do you recommend that we should do with regard to B–2 funding for fiscal year 1991? Should the money be fenced, in your opinion, in some similar fashion following the fiscal year 1990 fences? If so, do you have any ideas of the effect such a stretching out of the process might have on increasing the eventual cost?

Dr. HICKS. Well, Senator, I should say look, I have a conflict, I have always been for the B–2. I worked on the B–2 before I went in the Government. I think it is an enormously important weapons system, so you are talking to somebody who is an acknowledged advocate of the B–2 bomber. But now, having said that, I think people who know me realize that I try to speak what I really believe, unaffected by that.

I think that the problem is that you have a situation again where people on the scene know more than anybody else about how to handle it. You have very complicated issues here about maintaining work force, what you do in fencing things that might drive up the cost of the system, things like that that enter in. In talking about concurrency, the last two paragraphs on the first page of my statement I think stress very well exactly the complications of this. There are so many intangible things going into these things, and tangible things, including whether or not we should pull back because of concurrency issues on funding, that you really

have to let the people in the Air Force, and the contractor who worked with them, try to tell you the impact of these things.

I do not think it does the program any good. For example, now you are going to have people focus on the fact that because the number of airplanes has gone from 132 to 75 that there is an enormous increase in the price per airplane. That really has no bearing on the issue in terms of what your capability is here.

If we are going into a new kind of procurement, which I believe we should, which we have called, and those of us who have been working in this area, the long shadow issue, of maintaining our technological edge, continuing to maintain the development cycle, taking things into production some of which will continue into production, some of which we will only have a few, those are there for what we might call latent deterrent—an ability to have a time, the shadow of time that we need if we start to see the enemy reversing things.

In a recent interview, Congressman Aspen, and he sent out mailings on this, too, talked about the fact that if anything is certain right now it is the uncertainty of our situation. After World War II we had the uncertain situation of, we thought we were getting a strong nuclear weapon, the only outfit that would have nuclear weapons. That did not work out. We disbanded a lot of other stuff and we ended up with Korea. After World War I it was the war to end all wars, so we immediately disbanded everything and we got a Hitler. Every time we have these big things happen, we have to, it seems to me, plan properly.

I think the statements that Senator Nunn is making recently, I basically agree with almost all of it, but I think the issue here is that we are going to have to have deterrence, we are going to have to have the ability to force project, and we should look at all those things properly.

Now, if we try to make micro-management issues of fencing, it seems to me to be counterproductive to what we are trying to get to. But it is a very complicated program technically. I am absolutely pleased with the amazing technological advances taking place in reality from what we hoped would have happened 10, 15 years ago when we were working on this thing. I think it will make a major impact on this country's ability in many areas, and not only just on the B–2, but as we use stealth in other things. Because of the incredible changes that are taking place and have been, it is a very difficult program to manage, and I would think that the more flexibility we can give the Air Force, the Department of Defense, to manage it, the better. Fencing is not a flexible argument.

Senator EXON. Thank you. Mr. Krings?

Mr. KRINGS. The first one up after making a new rule is always the most difficult. If you decide that you are going to discipline something, the first person who breaks the rule of the new discipline gets punished and others before him go free.

I think that is the B–2 case, to create fencing that injures the progress of the program is not a reasonable thing to do. Nobody is really trying to do that. By the same token, the schedule that was proposed was not legislated by Congress. The schedule that was proposed was created by the proponents of the B–2. The contractor, the Air Force, and the Department of Defense said this is what we

are going to do. Nobody said, you must do this. They said, this is what we are going to do.

If we find that the proposed progress rate cannot be accomplished, we are back to what Senator Nunn was talking about earlier. We should reassess these programs based on what we think they can do—in hind-casting—our projection for accomplishment in B–2 was not correct. Obviously, we are not doing it as fast as we thought we could. The quality may be there and the need may be there, but we are not achieving the rate, so I think we have to reassess how fast we can go, and start to put some discipline in the program. I would look at the program and if we do not want to hurt it, but we do not want to continue to get farther behind, let us reassess where we are really going to be.

If we really try to ultimately get to the point where we achieve what we say we are going to do, the deliberation does not have to be made here as to where the money should go. The deliberation should be, as Don says, down with the program manager. Until he and others come up with a realistic schedule that they can actually execute, the burden is going to be upon you as to whether or not you punish the program or allow the program to proceed at a lower rate than they advertised they could.

That is not an answer to your question but it is a dilemma. We keep forcing Congress to make the judgment that the program manager should make and that the system should make by making realistic—fair and realistic projections of where they are going to be.

B–2 PERFORMANCE

Senator EXON. What is your view with regards to how the B–2 is meeting its performance? We are behind the curve somewhat on that. It has been my view, at least, that we have now proven that the aircraft will fly the next round of tests, essentially, go to the matter of assessing its stealthy characteristics. Do both of you agree with the assessment that I have just made? And how do you feel overall, other than the delays, the progress is going towards some sizable inventory of such a system as an overall part of our deterrence?

Mr. KRINGS. The tests today clearly indicate that the flying qualities and performance of the airplane are adequate. The flying quality development was obviously done reasonably well because to date the airplane seems to be flying well. The progress to date versus the opportunity to progress has been quite good.

As you point out, the next major test of the low observability and the signature of the airplane is the whole key because that is the only reason the airplane was built in the first place—not just to fly. We assume they all can fly. So, the fact that it flies well is not a big plus. It is just a fact. It should fly well.

Now, whether or not the signature achieves the levels that it is supposed to is the whole essence of the program. And we do not know that answer yet. There is nothing that anybody has found out yet to indicate that they will not succeed either through the flight testing that we have done already or other forms of testing other than the flight testing. So I do not think that anybody holds

that in great risk, but it has not been proven yet, the flying characteristics have.

Dr. HICKS. Again, I go back to the simulation issue. I think, as a matter of fact, the flying qualities were important, because as Senator Glenn pointed out, there was a lot of concern by a lot of pilots about whether it would have good flying characteristics. It has excellent flying characteristics and meets the conditions that we set out to meet. So that was an important thing to prove, and it has been proved.

As far as the low observability is concerned, again, there are things we cannot talk about in this place. But certainly there have been an incredible number of tests in that area that correlate very well with what we see to date. There are other tests that cannot be discussed that have happened in the real world of flying machines that absolutely correlate with the kind of theoretical reasoning we have in terms of the low observability of the B–2 bomber.

I was told by Assistant Secretary Welch, the Air Force, just recently that that has been opened up to Congress and brought over here to discuss. Many of you were already aware of the program, but it has been reinstated in terms of telling you about the program. I think you have plenty of information that says that it will meet the stealthy requirements, within 2 percent. I will make a wager on that.

Senator EXON. Thank you, Dr. Hicks. Thank you, Mr. Chairman.

Chairman NUNN. Thank you, Senator Exon. Senator Levin.

MX RAIL GARRISON CONCURRENCY

Senator LEVIN. Thank you, Mr. Chairman. We received a report, Mr. Krings, from the GAO sometime ago relative to the concurrency of the MX Rail Garrison program. Are you familiar with that?

Mr. KRINGS. Yes.

Senator LEVIN. You are familiar with the GAO report on that? On the concurrency issue?

Mr. KRINGS. Vaguely.

Senator LEVIN. Let me tell you what they said. They pointed out there are a number of technical problems that are still untested. One is the ability of the train to withstand launch effects. Two is the launch effects on the commercial rail bed and the ability of the bed to resume mobil operations after launch. Three is the capability of the guidance control system to recover specified levels of accuracy following rail transit. And four is the effect of horizontal basing and rail movement on the missile. Those are untested. The GAO says this is a high-level concurrency and unacceptable risk. We ought to test first before we reduce a significant number of those trains. The current budget plan is that we will procure about one-third of the trains in this year's budget prior to the operational test beginning. I am wondering whether or not you have a comment on the concurrency issue, relative to the MX Rail Garrison?

Mr. KRINGS. Not necessarily being in the habit of agreeing with the GAO, in this particular case, however, we were working on the same program—when I was in the Department of Defense we were negotiating with the Air Force to insert certain early tests that

would give us greater confidence before we made such a commitment. There is a chart that we put together in every test plan that showed the spending curve versus the testing curve. We would obviously like to try to get the spending downstream—of the testing.

In that particular case, we, too, found that the acquisition of the trains, as opposed to the missiles, was a very, very highly concurrent program. In fact, the operational testing would be completed when there were very few trains left to buy.

I do not know what has happened recently, but we were very, very actively pursuing getting adequate testing done early, whatever kind of testing might be possible—sometimes if you work at it hard enough, you find there really are a lot of tests that can be done, which cumulatively give you a lot more evidence than just waiting for the finished product. I would agree that it was highly concurrent, but I do not know how successful my former organization has been in influencing that.

Senator LEVIN. Well, apparently not if we are not having operational testing on the train prior to the procurement of one-third of the trains.

Mr. KRINGS. I do not know. If what you say is true, that is—they have not been. But I do not know whether that is currently the case.

Senator LEVIN. On the assumption that in this year's budget we are going to be putting in funds or be asked to put in funds for one-third of the trains before any operational testing has begun on those trains, then you would agree that that meant that your office has then contemplated the——

Mr. KRINGS. One-third of the funds—when you look at an overall program cost, it is nearly impossible even in a low concurrency program to not get one-third of the total funds expended, when you look at the cost of R&D, the up front cost, et cetera.

Senator LEVIN. I mean one-third of the procurement to buy the trains. I am not talking about R&D.

Mr. KRINGS. Thirty percent procurement before OT seems quite high.

ROLE OF THE OT&E OFFICE

Senator LEVIN. Is the OT&E office in a good position to give us an objective assessment on this when we have the Secretary of Defense saying that the concurrency that exists on the MX Rail Garrison is an acceptable risk? Does not that put the OT&E into a pretty difficult——

Mr. KRINGS. Yes, but that is where they are supposed to be.

Senator LEVIN. You have been there; how much pressure does that result in? The Secretary of Defense now has decided that they will take the risk. They are going to buy one-third of the trains, if they have their way prior to any operational testing beginning on the trains. That is the decision. Now, what kind of pressure does that result in on the OT&E?

Mr. KRINGS. Really none, when you get right down to it. You accomplish the operational test when it is scheduled, you give the results as they come out. You make a recommendation to the Secretary and to Congress as to what we believe should be done. We do

not make a decision. The OT&E does not and should not make a decision on the acquisition. But they should clearly make the evidence available to both you and the Secretary to make a proper judgment. In some cases, and rightfully so, you and the Secretary will agree to go ahead. In some cases you will not. But that prerogative should be up to you and the Secretary.

Senator LEVIN. Does the OT&E make a recommendation as to the acceptability of the risk in concurrency? Or does it just say, this is concurrent; these are the facts; this is the level of concurrency; and you folks decide whether the risk is acceptable. The specific question is, does the OT&E make a recommendation as to the acceptability of the level of risk?

Mr. KRINGS. There was not a singular formal event in which that occurred. There were opportunities to convey that position at various meetings and at various progressive milestone events. But there was not a requirement for that to be expressed formally.

Dr. HICKS. Senator Levin, before you came in I was talking about the need for the operational test and the development test to be close together throughout the period. It seems to me that the operational test organization is there to find out whether things meet the specifications, not to talk about concurrency anyway. It is sort of out of their bailiwick.

Senator LEVIN. My time is up. Thank you, Mr. Chairman.

Senator EXON. Mr. Chairman, could I put in one brief question as a follow-up?

Chairman NUNN. Certainly.

DETERRENCE EFFECT OF MX RAIL GARRISON

Senator EXON. I was kind of surprised, Mr. Krings, at your testimony on the MX. In the first place, the MX is in deep difficulty today because of information that we are receiving with regard to the attitude of the Air Force on this. And while there are some wishy-washy pronouncements coming out of the Secretary of Defense's office these days, I do not know what is going to happen to the MX. But I suggest that the GAO is not on proper course, as you seem to think they are.

I suspect the Soviet Union that has SS–24s operational at this moment may or may not have done extensive testing. I think we lose sight of the fact as to what is the MX supposed to do—the MX Rail Garrison. It is supposed to affect our deterrence. Now, I am not as much concerned, as some people are, as to whether if we would roll the MX out some place and fire off one of those in an exchange with the Soviet Union, whether or not the track is going to be damaged, and therefore, half-an-hour later we could not run a train over that track. If we are talking about deterrence, well, we have to look at some of these kind of things. I think sometimes we lose sight of what the Rail Garrison is all about. It is supposed to be about deterrence. And I think we can tear the MX Rail Garrison thesis totally apart, and maybe it is not going to be part of even the recommendations that come out of my subcommittee.

I simply say that I think sometimes the GAO and some of these think-tanks come up with every reason in the book as to why you should not build a program. What firing of an MX under a situa-

tion where the President would have felt it was necessary for us to fire one of those at the Soviet Union or any place else, sometimes I think we are too much concerned about what damage it would be to the track.

RATE OF PROCUREMENT OF MX RAIL GARRISON

Senator LEVIN. Mr. Chairman, if I could just comment quickly before Mr. Krings does, the issue here is whether or not you want to speed up the procurement of the MX while there is this much concurrency. The issue is not whether you build the MX in this argument. The question is whether you procure the trains before you have had an operational test to see whether or not the train can withstand a launch effect. Whether or not, for instance, the guidance in the control system will be accurate once the train has moved. Now, what is the big hurry? That is the question, not whether you want deterrence. That is a different issue. Whether the MX gives you more or less deterrence is one question. But another question is, what is the hurry as to whether or not it is deployed this year or next year or the year after. If we can have less concurrency and deploy a "better MX," why not do it? That is the issue.

Senator EXON. I disagree with you, Senator Levin. The issue is that the Soviet Union evidently has constructed an MX system. Whether you are for the MX Rail Garrison or not, they seemingly have constructed one that will work. Therefore, I think it is a little bit shortsighted for us to assume—with our technology, which surpasses theirs in this particular area—why we could not accomplish what they have done.

Senator LEVIN. I would assume that testing to help prove it.

Mr. KRINGS. I think that the two Senators have shown why we normally present the evidence and let you two argue as to whether or not you want to make the judgment. That was our goal, to present before you what the evidence is.

Now, I think that there is one thing that we could do—if we were looking for a win-win situation, we were trying to insert testing, not stop the program, but really look and see if there is not some evidence available in the form of objective testing that could be or is being done so you could raise the confidence without altering the program. Now, if it is clearly not there, even after looking very hard for it, then you might want to add it and slow it down. But I think in many cases, we do not take advantage of the evidence that is already there. In most of the cases, operational testing finds absolutely nothing that was not known before. It just creates an open path to report it.

Senator EXON. Does Dr. Hicks have any opinion on it?

Dr. HICKS. I am the wrong person to ask about that, because I support Fred Ikle's position and do not have the same concern about our land-based deterrents as others do. I think there is a real arms control issue here, of course, about trading the Rail Mobil MX against the SS-25 and SS-24, which I think we should do. And I am not one person who believes strongly in mobility anyway, because I think it is very expensive. I am much more against mobili-

ty in the Small ICBM than I am in the MX because of money. And I think it is an unnecessary expenditure.

I go along with what I have been reading that we should proceed in R&D particularly for the Small ICBM, in case we decide we have to go single warheads. Putting the Small ICBM into a complex of carry-hard would be my approach still, after all these years. I have not changed my mind much. I have no feeling, Senator, about whether or not there is too much concurrency, because I just do not know enough about the program today.

Senator EXON. I am sorry I asked the question, Mr. Chairman, because if we get into an argument here on your views on the Small ICBM, we are going to be here all day. So, if I could, I would like to strike that from the record. [Laughter.]

DETERMINING "WHEN IS THE THREAT?"

Chairman NUNN. We appreciate your providing the facts on which we can apply our pre-conceived and pre-existing prejudices. [Laughter.]

I would like to ask just two or three more questions. Mr. Hicks, in a recent speech you noted the reduced threat posed by the Soviet Union. In those circumstances you said the question, "when is the threat?" becomes as important as, to use your question, "what is threat?" Do you think at this stage based on your outside observations that the Department of Defense is asking that question, "when is the threat?"

Dr. HICKS. Well, I think that there is a lot of intensive effort going on, Senator, in order to come up with those kinds of answers. There is an awful lot of confusion now because of the external situation about where they should come down. And there is a lot of disagreement. All I know is what I read, but if you read Secretary Cheney's statement versus Chairman Powell's statement, you can see that there is a real attempt over there to come to some grips with this situation.

The reason that I like the issue of the long-shadow approach is that "then" does not have to be answered. You get yourself in a position where you are able to do things on a timely basis to meet the threat. And the "when" depends on what that nation does.

Chairman NUNN. Do you have a written statement on the long-shadow?

Dr. HICKS. One of my colleagues, Dr. Gold, who is in my organization, and others have put together a very good paper on that, and I would be glad to give that to you.

Chairman NUNN. Would you provide that for the record?

Dr. HICKS. I certainly will.

[The information follows:]

LONG SHADOWS AND VIRTUAL SWORDS:

MANAGING DEFENSE RESOURCES IN THE CHANGING SECURITY ENVIRONMENT

Ted Gold
Rich Wagner

SUMMARY: A nation's military potential is its capability to realize actual military force at some later time. Many ingredients can contribute to military potential: trained and trainable manpower, natural and material resources, technology and production bases and a military infrastructure that can absorb augmentation in a timely fashion. For the past four decades our security landscape was dominated by the immediacy and constancy of the Soviet military threat and thus our military posture was based largely on forces-in-being.

In the emerging security environment -- less immediate major military threats, but great uncertainty about the future -- we can reduce our reliance on forces-in-being while giving a correspondingly greater role for military potential. Such a strategy not only hedges against uncertainty, but also can help shape and stabilize the future by influencing adversaries and would be adversaries.

This paper develops these ideas more fully, and then focuses on the technology and production base elements of military potential and suggests a way of thinking about their future roles. It also identifies changes to the acquisition process and underlying culture that are necessary to implement a new strategy. These changes include treating R&D and production bases as products in their own right and not merely as necessary foundations for anticipated full scale production and deployment.

INTRODUCTION: The remarkable events unfolding in the Soviet Union and in Eastern Europe inspire visions of a safer world: a future distinguished by enduring constructive and cooperative superpower relationships. There is much talk of drastically reduced defense needs and corresponding reductions in defense budgets. Unfortunately, there is considerably less discussion about the national security strategies appropriate to move us toward such visions, cope with the greater uncertainties we now face and guide our budget and force posture choices.

Our purpose here is to suggest a way of thinking about the emerging security environment and its effect on how our defense resources should be managed in these times of change, uncertainty and opportunity. We address certain defense related roles played by the nation's scientific, technological and industrial bases and focus particularly on the relationships among the defense system acquisition activities: research and development, requirements generation, production and deployment. We will contrast how these roles and relationships were thought about in the past with how they should be viewed in the future. We do not address the role of our scientific and technology bases in fostering U. S. economic competitiveness, which also has significant security implications.

President Bush has spoken of moving beyond the strategy of containment toward something better suited to the new political landscape. The associated military strategy -- describing the purposes for military forces, how those forces should be postured, and how they would be used in war if needed -- will have to be rethought as well.

A strategy for defense-related use of our national resources in general, and our scientific, technological and industrial base in particular, is a necessary complement to the political and military strategies. In the not too distant past, e.g., the World War II era, such resource strategies were considered to be the essence of security policy. They also played prominent roles in guiding our responses to the emerging Cold War and the attack on Korea in the early 1950s, and when Sputnik focused attention on technology later in that decade.

More recently, resource strategies have been less expressly a part of overall U.S. national security strategy. However, in spite of reduced status in our strategy hierarchy, the defense implications of relative East/West resource bases appear to have weighed heavily in Soviet thinking and influenced their recent decisions to move towards less confrontational postures. The resource components of defense strategy likely will become even more consequential in the future.

Our scientific, technological and industrial resources can help encourage and sustain improvements in the changing political and military relationships as well as provide hedges to cope with less benign futures. A strategy for their use will be especially important as the U.S. defense budget shrinks substantially below recent levels. Almost half of the budget is now used for R&D, production and related activities which support the defense base.

Adopting a resource strategy suited to the emerging security environment will require changes to the defense acquisition process which go beyond the procedural and organizational. A new vision of the basic roles and purposes of defense acquisition is needed. Furthermore, making these changes to support the new strategies will entail modifying the culture within which the defense acquisition process operates.

THE OLD VIEW: THE FUTURE MUCH LIKE THE PAST; THE DEFENSE ACQUISITION PROCESS AS A PIPELINE. For the past few decades, our defense planning was based, sometimes explicitly, on the view that the future would be much like the recent past. The constant was an intensely competitive Soviet Union supporting its position with large standing forces and using those forces often enough so that the threat seemed always at hand. Another element in this unremitting threat picture was a Soviet defense acquisition process succinctly characterized by former Secretary of Defense Harold Brown: when we build, they build; when we stop, they build. This security environment helped foster a widely shared perspective (perhaps not shared by Brown) of the defense acquisition process as a pipeline. Research and development are poured into one end and eventually their fruits appear as fully deployed systems at the other end.

Certainly, the acquisition process must serve as an efficient pipeline to deliver needed systems to the field. However, there is a widespread tendency to view its pipeline role as the sole function of the acquisition process. This tendency appears be be as prevalent among insiders to the process as among the public. Thus, a common perception has been that the value of R&D accrues only if and when fully deployed systems materialize. Funds expended on systems that did not reach deployment were often considered wasted; programs that did not proceed through production to deployment were considered failures. This perspective of the acquisition process as a pipeline, and only as a pipeline, has also distorted how the defense resource base itself, which supports the acquisition process, is viewed. However, there are substantial values and "products" of R&D and of the technology and industrial base beyond providing deployed systems. For reasons and in ways we will discuss, these other

values will become increasingly important in the emerging security environment.

THE LONG SHADOW EFFECT: What are these other "products" of defense resources and the acquisition process? R&D activities afford value in and of themselves before (and in many cases independent from) any production or deployment. They provide knowledge: to support arms control and other policy decisions and to understand current and potential future threats. Further, a developed and demonstrated potential to produce or deploy certain systems is a product in its own right and can provide options and hedges against an unknown future and mitigate the consequences of surprise. Perhaps even more important, especially in the new environment, the potential of future deployment can influence possible adversaries' behavior: providing incentives for arms control, dissuading against cheating and breakout of treaties, convincing them, now or at some future time, that they would have nothing to gain from resuming a military build-up. In effect, the R&D casts a long shadow forward, its influence felt long before any deployment. Thomas Schelling used the term "long shadow" in the 1950s in reference to how the existence of nuclear weapons shaped views of the future. The effect we have in mind is similar, but applies to all research and development. One of the authors, along with Steve Rockwood and Jasper Welch of Science Applications International Corporation, sketched these more general long shadow effects in a 1988 paper. (Later we will address why these positive influences are likely to outweigh possible negative "arms race" effects.)

Even though the pipeline image has dominated the acquisition process, there has always been a long shadow component of our security posture. Although it has often not been deliberately managed, it may have had a larger positive effect than is commonly understood. The Strategic Defense Initiative (SDI) -- in generating knowledge, in developing options and in its impact on the Soviets -- is a prime current example. There are others. There is evidence that the Soviets have been very concerned about Western prowess in smart weapons and associated surveillance systems (a capability thus far more potential than real). More than a decade ago, the Soviets were apparently taken aback by the emerging U.S. capability for small, long-range cruise missiles. A somewhat perverse example is the U.S. ICBM program over the past 15 years, generally perceived as politically influenced and full of false starts and unfilled paths. A case can be made in retrospect that, although not the intent, the ICBM development program was a successful long shadow activity. It avoided very expensive large scale deployments, while doing enough R&D, demonstration, production and deployment to keep our options open and convince the Soviets that we would not allow them to gain usable superiority.

Despite these examples, insufficient attention has been paid to the long shadow role of defense-related R&D and of the technology and industrial bases. Most often the long shadow effects were not given much explicit weight, or were even deprecated, in the decision process. Representative was the remark made by former Defense Secretary Casper Weinberger on the fifth anniversary of SDI in March 1988: "We cannot defend our nation with a research program." But long shadow aspects of our defense postures, undervalued in the past, will be even more important in the future.

THE NEW VIEW: UNCERTAIN FUTURES, NEW OPPORTUNITIES. In contrast to the old assumption that the future would be much like the past, the future before us now is characterized by both greater opportunity and greater uncertainty. The need to cope with both

will have profound effects on defense planning and acquisition. Instead of a single baseline future dominating defense planning and programming, we now must account for several plausible alternatives. Will Gorbachev succeed or fail? What are the consequences of either outcome? Are the Soviets playing for breathing room? Which of the recent changes are reversible rapidly? Which are more enduring? Will the lessening of Soviet control domestically and in Eastern Europe lead to instabilities which could have security implications? What are the implications of the expected rise of other significant military powers and the spread of advanced weapons?

The current defense acquisition process, dominated by its pipeline role and largely discounting other values, is not well suited to cope with the greater uncertainties we now face. Neither is it well suited to meet the needs deriving from the growing importance of arms control as an element in our security posture. Verification and safeguard measures will play substantial roles in dealing with the risks associated with arms control agreements. Both capabilities contribute to deterring noncompliance. Safeguards also mitigate the consequences of cheating and treaty abrogation. Safeguards often will include maintaining capabilities -- to develop, test, produce or deploy certain systems -- as both a deterrent and a hedge.

Up to this point we have argued that, to cope with uncertainty and influence potential adversaries, the long shadow elements of the defense acquisition process will become more significant in the future. There is a more proactive course to coping with uncertainty than simply providing hedges, and a more positive tack to influencing potential adversaries than dissuading particular developments or providing incentives for specific arms control measures. In addition to uncertainty, the present time provides hope and opportunity. We should take advantage of the opportunity to try to shape the evolution of the overall security relationship with the Soviet Union and others in desirable directions toward desirable ends. Over the next few years the U.S. and NATO will be searching for such collective visions to guide our strategies and programs. There is a natural and reinforcing correspondence between the long shadow aspects of the defense base and desirable evolution of the political and military relationship with the Soviet Union. To understand why, we will need to develop a view of how those relationships could be shaped to evolve in a desirable way. (The way of thinking about the emerging security environment that we will outline stems from a continuing effort involving Rodney McDaniel, Joel Resnick and Leon Sloss as well as the authors.)

A VISION OF THE EMERGING SECURITY ENVIRONMENT: In a preferred path into the future, we would see continuing improvement in the Soviet Union's behavior and in the propitious aspects of the political changes in Eastern Europe. More important, we would see both become increasingly durable. Indeed, a fundamental descriptor of future security environments will be the durability of improvements in both the political and military relationships. Thus, over time we would see a decreasing likelihood of Soviet reversion to more confrontational behavior and reconstitution of a more dangerous military posture.

Of particular importance to our resource strategy and its component acquisition process would be that, in this preferred future, the time required for such reversal would increase, as institutions in the Soviet Union and Eastern Europe which underlie durable improvements become more robust. The signs of reversal will be more visible as well. History suggests however, that as tensions decrease, our sensitivity to mark these signs will also decrease. Our strategy should be designed to reinforce

durability of improvement, and to both discourage reversals and cope with them should they occur. It may well be decades before we can be confident of enduring transformation of the Soviet Union.

Threats from third world countries will likely grow in relative importance as the immediacy of the Soviet threat recedes. (The intensity of so-called low intensity conflicts may not be so low given the growing proliferation of modern weaponry.) We believe that the Soviet Union, albeit posing potential dangers different than in the past, will continue to be the major driver of U.S. defense budgets, postures and programs in the near term. However the usual assumption that all other threats are lesser included within the Soviet threat will be much less valid in the future.

The Soviet Union has demonstrated two attributes necessary for the long shadow to work: rationality and long time horizons. The first is essential for an object of any deterrent strategy; the second indicates that they have no problems conceiving the realization of potential. (The degree to which a more nationalistic, less Soviet, Russian confederation or some other future descendent of the USSR retains these attributes is uncertain.) Can military potential exert influence on states other than the Soviet Union? We believe it can, although to a lesser extent. For some threats, terrorism for example, the long shadow effect may be vanishingly small. However, for others -- regional, or would be regional, powers -- U.S. potential as well as actual power can influence behavior. At the very least, our military potential, by helping shape and stabilize relations with the Soviet Union, can mitigate the global implications of third world contingencies.

Increasingly durable improvements in the superpowers' political relationships might be manifested in the parties' defense postures as a sequence of changes over time, in how the military instrument is thought about and structured -- changes fundamental enough to be called paradigm shifts. One thread linking these paradigm shifts would be increasing preparation time required to mount large scale offensive operations, from the days to weeks we have been concerned about, to several months and perhaps eventually to years.

The military paradigm of the past forty years, and still embodied in today's force postures, could be labeled as an "attack paradigm." It is characterized by large standing forces poised to attack or defend in days or weeks -- the Soviet forces in particular equipped for offensive action. We already may be starting to move towards a "mobilization paradigm," with smaller standing forces, most of them less ready, with several months required to prepare for very large scale offensive action. An extension of this in the farther future might be a "rearmament paradigm," with even smaller standing forces and (a few) years required to build equipment and mobilize the forces needed to mount sizable offensive military operations. Along with these lengthening preparation times and smaller forces might come shifts toward forces with characteristics less suited to large scale offensive action (though what this means in detail remains to be defined).

Such an evolution in forces seems natural since it would be consistent with likely trends toward longer times for the political relationships to deteriorate as we move into the future. It also seems desirable, although risks would remain. Longer times to prepare for war do not guarantee absence of war. Likewise, longer warning times do not ensure that we will heed the warning signs. There has always been considerable

disagreement among Western observers as to how long it would take the Soviets and the Warsaw Pact to prepare for attack. In the recent past, the uncertainty ranged from days to several weeks. If and as preparation times become longer in the future, there will continue to be a range of uncertainty. Dealing with such uncertainties will remain an inescapable responsibility of defense planning. We will need to avoid gross disparities in mobilization capabilities and address the possibility of asymmetrical mobilization between the West and the Soviets. The geographical asymmetries are obvious; societal asymmetries may not favor the Soviets as much as conventional wisdom has long held, and may be changing rapidly. In a rearmament paradigm the economic base could strongly favor the West, given timely response to indications.

Throughout the evolution we have posited, the strategy for use of the industrial and technological base assumes greater importance relative to military strategy per se. In such a future, there would be both less concern for, and less dependence on, immediacy of the military instrument. Emphasizing the long-shadow effects and resource-related elements of our security strategy not only would be consistent with, but could reinforce, these trends. (It could be argued that the Soviets' new thinking and new behavior are based on considerations out of which it would have been natural for them, in their thinking about security, to have developed also a long-term, defense-related resource strategy.)

A resource strategy appropriate to the substantially less mobilized situations we should be aiming for can be called a reconstitution strategy. A reconstitution strategy would guide the nurturing of a posture which could realize a considerably higher level of in-being military capability at some later time. A reconstitution posture embodying such a strategy would have several ingredients: technology and production bases, natural and material resources, trained and trainable manpower, and a military infrastructure that can absorb augmentation in a timely fashion. It would also need keen intelligence gathering and astute intelligence analysis capabilities. A criterion for success of a reconstitution strategy would be its ability to dissuade actual reconstitution (mobilization or rearmament) on the part of potential adversaries by the prospect of our being able to prevail (or at least not fail) in competitive reconstitutions.

Nuclear weapons could also play a role in dissuading attempts to win mobilization races. During the past few decades, nuclear forces also have been kept at high readiness states: poised for use. The high readiness posture of U.S. nuclear forces stems from concern for their survival as well as their extended deterrence role of deterring non-nuclear war. We envision a continued war-preventing role for nuclear weapons (a subject for another paper) although with considerably changed force structures and postures. As the immediacy of the conventional threat recedes and the political context improves it will be desirable to shift to nuclear force postures that are also much less poised for use than today's. However, nuclear forces do not lend themselves as naturally as conventional forces to substantial increases in the preparation time required for offensive use. It will be a formidable challenge to deal with the security and stability implications of these fundamental differences between preparation times of nuclear and conventional forces.

THE GROWTH OF NON DEFENSE SUPPORTED R&D: Another element of the changing environment is a growing difference between what is technologically available and technologies actually embodied in

deployed force structure. This divergence was smallest at the end of World War II when practically everything that could be done in military technology was being done. The difference has steadily increased over the past forty years. A paper presented by Ashton B. Carter, Harvard University, offered that "...DoD R&D furnished one third of all the money spent on R&D in the western world in 1960. Today this fraction is one sixth." The fraction is likely to fall further as civil technology burgeons and military budgets shrink. The technological disparity can create destabilizing tensions which could partly counteract relaxation of political tension, if indeed such relaxation continues. On the other hand, most of the civil technology is born in the West. Thus the growing gap can enhance security and stability if we can adapt our defense base and acquisition system to deal more effectively with this opportunity.

VIRTUAL DEPLOYMENT & ARTIFICIAL EXPERIENCE: In an environment of a much less immediate Soviet threat, lower defense budgets and considerable uncertainty about the future, our security will depend relatively less than today on forces-in-being and more on military potential. While new system procurement may be increasingly justified by non Soviet threats, the quantities required, in general, will be considerably smaller than needed against the Soviet threat of the past several decades. We have developed strategies -- deterrence, flexible response -- for forces-in-being; we will also need strategies for projecting our potential. These trends -- increased emphasis on strategies to deal with greater uncertainty, the shift toward emphasis on projecting military potential, and the growing technology gap -- lead to two concepts: "virtual deployments" and "artificial experience."

A "virtual deployment" is a capability brought to within some time before actual deployment -- months to several years -- and then put on "hold" to be maintained at that (or a time-varying) state of future deployability, introducing new technology as it becomes available. ("Virtual" is sometimes incorrectly used to mean "not quite". We use it here, instead, in the sense of Webster's definition: "existing or resulting in effect or essence though not in actual fact or form".)

Virtual deployment activities could take several forms. In some cases it may be appropriate to sustain a development and demonstration program for extended periods, introducing new technology into an evolving architecture over time. Some systems might be cycled through several "generations", each generation proceeding from concept development to some phase short of full production and deployment. Production of prototypes would also play an important role in order to learn about manufacturing problems and/or provide some systems to the users. The resultant hands-on experience would feed back to influence subsequent development as well as changes to doctrine, training, roles or missions. In some cases a data package of production specifications could be "put on the shelf". However, in general, military technology is too perishable to be stockpiled in the usual sense.

An array of virtual deployments could be in various stages of development, demonstration, prototyping or limited production. The array of time delays (before actual full deployment) is what would be managed and adjusted, in concert with managing actual deployments and forces-in-being. (Even today, this is probably how several nations think about and manage their nuclear proliferation R&D.) For the longest time delays, it is the deep technology base -- for example, materials science -- which is involved.

The virtual deployments would be used to "develop the board," as in chess, with one's own virtual deployments blocking or channeling a potential adversary's virtual deployments. The ensembles of actual and virtual deployments would have a complex deterring interplay. The "deterrence" involved would be not only deterrence of war, but dissuasion of mobilizations or certain deployments (actual or perhaps virtual) as well. As we have said, this has been to some extent the case with, for instance, ballistic missile defense technology over the past couple of decades. In the future, military relationships/competitions, at least among the major powers, may be characterized more by development and maintenance of such an array of undeployed options, than by deployed systems. With the growing technology disparity, and shrinking defense budgets, there are likely to be more of them than of actual deployments.

Detailed questions of how to manage a defense enterprise of fewer real and more virtual deployments remain to be answered. Not only must we continue to develop new technologies and invent concepts but also retain our capability to turn concepts into specifications, specifications into products and put products into the field.

Also needed is a capability to assess the military potential of technology world wide. Technology assessment will be especially important and increasingly challenging as DOD sponsored R&D becomes a smaller fraction of the world's total. The challenge includes overcoming what The MIT Commission on Industrial Productivity characterized as our parochialism which "blinds Americans to the growing strength of scientific and technological innovation abroad". More particularly, the intelligence community will need to emphasize collection and analysis of other nations' abilities to project military potential, including their basic and applied research and early stages of system acquisition. Some of the needed information is available in published literature, but more effort is needed to look into the "intelligence gap", the interval between published research and when system development projects reach observable stages of testing. The CIA's CATALYST project is one example of a useful tool for doing this.

To complement this intelligence emphasis, a revitalized program of "Net Technical Assessment" will be needed to help understand the interactions between our technologies and others', to develop hedges and to try to shape their postures. One area deserves special attention: competitive mobilization and how technology and R & D play with regard to reconstitution capabilities. There is paucity of analytic tools for studying this, which could be a serious weakness if the Soviets are operating from a resource strategy.

Some will question the arms race implications of increased emphasis on the long shadow model and virtual deployments, and of the tensions inherent in the civil/military technology disparity. The long shadow effect can work both ways; R&D can both stimulate and dissuade adversaries' developments. Properly managed, dissuasion can predominate. Much concern about arms races has tacitly assumed little resource constraint; but this has clearly been unwarranted, especially (we now believe) with regard to the Soviet Union, and it may be even less valid in the future. Further, the tensions associated with the inevitable civil/military technology gap are probably less worrisome with many technologies partly developed toward military systems and fewer deployed, than with more deployed and a great many totally undeveloped. Finally, better a virtual arms race than a real one.

Increased emphasis on virtual deployments and the growing disparity between civil technology and deployed military technology will magnify an existing trend: growing reliance on, and need for, "artificial experience." Heightened environmental concerns, tightening budgets and resource constraints have already motivated great interest in simulation technologies and capabilities. Indeed, deterrence -- war avoidance -- strategies in general lead to reliance on systems which are deployed, but not used in war, and thus have uncertain capabilities. The interactions of new technologies embedded in future forces, and of their counter- and counter-counter-measures, will not be well understood. Of course virtual deployments cannot be actually tested in war. High fidelity simulation and training techniques, used not only for deployed systems but to assess the interplays of potential developments and virtual deployments, will increasingly be the currency of military economy. An example is the Defense Advanced Research Projects Agency's SIMNET program, developed originally as a training tool, and now beginning to be used for "virtual prototyping," which could be a level of virtual deployment.

CHALLENGES OF INCORPORATING NEW APPROACHES INTO THE DEFENSE ACQUISITION PROCESS: The issues and concepts sketched briefly here may be on the way to becoming a new and fundamental strategic reality, which could have profound impact on how the Department of Defense does its business and even what it thinks its responsibilities are. For example, industry now independently funds a lot of R&D up through prototyping, hoping to recoup this investment during production. This may not work very well today, and it can't work in a future consisting much more of virtual deployments. And the preoccupation, over the past decade, with cost-efficiency of the later phases of the acquisition cycle would have to shift to put much more emphasis on the earlier stages. The technology base would need a strategy developed with the same seriousness as applied today to strategies for use of forces-in-being. ("Competitive strategies" might be thought of as doing this, but it remains more rhetoric than strategy. It also doesn't give as much weight to long-shadow effects as we do here or address the deep tech base.)

Adopting and implementing the proposed new approach will be difficult. There will be less funding available and thus intense competition for diminishing resources. Devotees of the pipeline model of acquisition will argue that cuts in force structure can be matched by corresponding cuts in R&D. Furthermore, it will require changes not only of the acquisition process but in the underlying culture as well.

The pipeline model of the acquisition process is embedded in the culture of much of the Pentagon and the rest of the military industrial complex. The major defense companies make their profits from large scale production; military officers earn promotions from moving programs through the next acquisition "milestone." But to cite one example, in a long shadow strategy, many R&D programs will be deemed successful if they do not have to move to the next milestone. Some of these may have to be maintained for long periods of time. The current system of rewards and incentives is not particularly compatible with this approach. Business as usual will not do. Even business as it is being changed in the current attempt to reform the acquisition process will not do. Both civilian defense managers and the military services will feel the stress.

Most of the recent attempts at Pentagon reform have been directed, explicitly or implicitly, at repairing the pipeline. The pipeline is indeed badly in need of repair; it is clogged if not leaking. The fundamental problems are not fraud, abuse and

explicit waste. Much more significant has been inadequate requirements management. Over-requirement and over-specification have been endemic, stemming both from too much regulation (as much internal to the Pentagon as external) and frequent failure to perform comprehensive cost performance tradeoffs and other necessary ingredients of starting programs right. Compounding the problem has been a general inability to modify performance requirements in subsequent development and production when the requirements too often turn out to be more difficult and expensive to achieve than expected. Disciplined requirements management will present even more of a challenge in these times of greater uncertainty about the future.

Not surprisingly, for it was written before the Berlin Wall came down, the generally excellent Defense Management Report to the President by Secretary of Defense Dick Cheney reflects a pipeline perspective of the acquisition process. Along with a frank assessment of deficiencies and on-target recommendations, the document emphasizes the importance of not starting more new programs than long-term resources available to DoD will support. It directs that this criterion be established at the step in DoD's formal acquisition process known as Milestone I, Concept Approval. Prior to Milestone I there will be "Concept Definition studies to evaluate potential alternative approaches to meeting validated priority needs." The document allows that since there is a need to address alternative approaches, "more Concept Definition studies may be undertaken than will be carried past Milestone I." Such flexibility is a step in the right direction but doesn't go nearly far enough.

In addition to addressing alternative solutions to validated needs, our defense acquisition process must also account for alternative futures: futures in which the Soviets revert to dangerous confrontation, futures in which they progress toward liberal democratic values, futures in which we have little idea where they are heading, futures in which new threats emerge. There is an aggressive role for technology in the strategy we have outlined: not only as insurance to hedge against uncertainty, but also as a tool to help shape events and influence the behavior of potential adversaries. We are not, however, calling for unsupervised play by technologists. We envision a disciplined multitracked process.

Indeed, dealing with the new circumstances we have described in this paper ought to become a higher level of "validated need," increasingly reflected in the formal acquisition process. This will require that some programs proceed past Milestone I, some through Milestone II (Full Scale Engineering Development) and sometimes beyond Milestone III into pilot production even when the probable outcome will not be full-scale deployment. All of this and much more will have to be taken into account in the needed strategy for the consolidation and restructuring of the defense resource base in the coming times.

In the emerging security environment, R&D and production capabilities should be viewed as products in their own right, not merely as ingredients for anticipated full scale production. Thus, the costs of these products must be identified and provided for explicitly. Industry should be allowed to make a fair profit on R&D, and not, as often has been the case, expected to recoup their "investment" in subsequent full scale production. Among the changes required in a time of considerably smaller forces and lower production will be new procedures for allocating funds for Independent Research & Development (IR&D) programs. These programs, conducted by defense contractors, (over 110 participated in FY1989) comprise much of DOD's conceptual and

exploratory R&D. Presently, IR&D activities are negotiated as a percentage of sales.

Maintaining production capabilities in an era of reduced production will pose a greater challenge. A key to accomplishing this is for the DOD to make much greater use of commercial products and capabilities. This implies considerable change to DOD practices in order to match more closely those of the commercial sector, not the other way around. In some areas -- communication and electronics, certain aircraft -- the commercial sector should be able to provide much of the necessary capabilities. For many systems -- combat aircraft, submarines, tanks -- a surrogate capability does not exist in the commercial sector, but must be provided for by DoD. However, even in these cases greater use of commercial products and capabilities can be made at the subsystem and component level.

Production processes also need to be restructured to be more efficient at lower production rates while providing the base to reconstitute to higher rates if needed. The base will be kept warm by maintaining and upgrading existing systems and producing prototypes and limited quantities of new systems. Flexible, rather than product specific, manufacturing techniques will be needed to do these efficiently. Additionally, a larger fraction of the R&D effort should be directed to reducing costs and improving production processes.

We will need to develop measures of the benefits and costs of conducting R&D and maintaining production capabilities that capture their total contributions to deterrence and stability. One frequently used cost measure that decidedly does not capture their total value is the the average unit program cost, calculated by dividing the number of units produced into the total acquisition cost, including the costs for R&D and production base activities. Continued focus on this cost measure, particularly as production levels decrease, will hamper effective resource allocation by perpetuating the pipeline view that only deployed systems count and discounting the important contributions of R&D and production base maintenance.

The new security environment will affect not only acquisition procedures and production processes but what we choose to develop and produce and how we design systems. Increasingly, modifications and upgrades to existing systems will be perceived to offer cost effective alternatives to new system procurement. Munitions and other "payloads" (e.g., sensor packages) should gain favor relative to new platforms. Indeed, new platforms will have to afford very large, perhaps revolutionary, gains in capability to justify deployment. Modular designs, more easily upgraded and modified for new missions, also should be an important element of the new acquisition landscape. In general, reducing the time and cost required to produce and deploy larger numbers if needed will become important considerations, vying for priority with more traditional performance requirements in the selection and design of systems.

These steps -- more product improvements, upgrade packages, modular designs, flexible manufacturing, commercial products -- were good ideas in the old environment. In the emerging environment their adoption assumes even greater importance.

In a resource based strategy as we have described, the fraction of the defense budget allocated for R&D would increase, perhaps to 20%, as total defense expenditures are reduced. (Since 1959, R&D's percentage of the annual defense expenditures ranged between approximately 10-14%. Prior to 1959 the percentage was

considerably lower: 3-6%. It doubled in 1959 as part of our response to Sputnik.) Defending a particular future level of funding for defense R&D is beyond the scope of this paper. Conceivably, the level could remain relatively close to today's approximately $40B, depending on the extent of full scale engineering activities.

Production funding would decrease below today's level of approximately $80B. However the reduction would not be proportional to force structure cuts because of the need to maintain production base and reconstitution capabilities. The more successful that DOD is at making use of the capabilities of the commercial sector the less costly it will be to maintain a military system production base.

Even with much smaller forces, there will remain a considerable production demand to replace aging equipment. Leonard Sullivan has estimated the replacement cost of our current force structure inventory to be approximately 2.6 trillion dollars. Assuming a force structure half the current size and a thirty year life for all equipment, over $43B a year in production funding would be needed to replace end-of-life equipment.

The impending consolidation and restructuring of the defense enterprise can reinforce a new overall security strategy, or it can be counterproductive if it is simply allowed to happen or carried out according to premises inconsistent with the overall strategy. One of the latter outcomes is not out of the question, because there has been relatively little attention to resource strategy in recent years. A resources strategy and its component acquisition process which pay relatively less attention to the near term and more attention to the farther future will encompass more of the pervasive uncertainty and be more consistent with how we should be shaping our security relationships with potential adversaries. Doing this will require careful management toward these ends, because such a strategy entails significant change in the cultures of the nation's security establishment.

POSTSCRIPT: *We have received a lively response to the distribution of earlier drafts of this paper. Among the most forceful is criticism that military technology cannot be put on the shelf. We agree. The process we envision -- and only briefly describe here -- is more dynamic than implied by putting something on the shelf. Military technology is not a commodity that can be stockpiled. Nor do we envision merely stretching out R&D programs. Casting shadows depends upon capabilities for timely production and deployment. Thus, there may be an even greater payoff from shortening development times in a future in which we rely more heavily on military potential than in our current "pipeline" operation. One implication is a continuing need to pay more attention to producibility and production processes early in the development cycle.*

Another criticism is that the U.S. likely will not respond to danger signals in time to reconstitute its military power. Certainly the future we envision is far from risk free. We have only touched on the vital role that our intelligence capabilities must play in managing these risks. Moreover, the alternatives to a strategy of relying more on military potential are either less feasible (maintaining high defense budgets in the face of a receding threat) or more dangerous (not even trying to maintain the technology, production and the other bases needed to reconstitute military power). Furthermore, the long shadow of our military potential may itself dissuade threats from materializing.

Three critical assumptions drive the vision we outline: the major military threats will be less immediate than in the past few decades, we must deal with considerable uncertainty about the future and we must do so with lower defense budgets than today.

Given these assumptions we:

- can reduce our forces-in-being (the remaining force must be well trained and equipped),

- must develop and maintain options and safeguards not only to hedge against uncertainty, but also to help shape and stabilize the future (long shadow effect),

- cannot afford to have all these safeguards/hedges in fully realized states and thus

- must, more explicitly than heretofore, address time -- including the question of "When is the threat?" -- as we manage an array of programs in various stages short of full realization.

It is this greater attention to the time dimensions of the security environment and the concomitant managing of time in the acquisition process that is perhaps the fundamental difference between the process we envision and today's. "Strategy must play with time as it has come to do with space." This proposition, by Andre Beaufre from his 1965 book "Introduction to Strategy", captures much of what we are suggesting here. We note in closing, the recent attention to managing time in the civilian marketplace, from a different but not unrelated perspective. For example, George Stalk, Jr. proposes that "As a strategic weapon, time is the equivalent of money, productivity, quality, even innovation." (From his "Time -- The Next Source of Competitive Advantage", winner of the 1989 McKinsey award for the best Harvard Business Review article.)

RELEVANCE OF PER UNIT COSTS

Chairman NUNN. Would it be fair to say that that is an R&D and limited development option?

Dr. HICKS. Yes, but it is not the issue. I say the mistake is people say, let us put the R&D on the shelf, you know, and then—you cannot put it on the shelf.

Chairman NUNN. You mean limited production?

Dr. HICKS. You have your limited production, sometimes you have to go into production. It is again a management judgment.

Chairman NUNN. We are going to drive up per unit cost, but we know we are going do that, and we save overall costs. But we pay the price of driving up per unit costs in order to keep alive the possibility of a contingency.

Dr. HICKS. Exactly. The issue of unit cost is really a ridiculous concept in the first place. What you are talking about is the overall cost to the system, which means 20 years of O&M cost and all kinds of things. And if you decide to cut back on the numbers of things, clearly, you save total dollars.

Chairman NUNN. I think the per unit cost is relevant when you are gearing up huge production lines for large per unit production, then you never have come close to meeting that. That is where you waste all your overhead. But if you start off with the concept of

limited production and do not gear up for the huge, full production then you are in a different situation.

Dr. HICKS. Absolutely, no question.

Mr. KRINGS. There are many industrial practices too in which deployment, which is delivery and assembly, is held off until requirement exists. And I think there are techniques of design in industrial products that could be used to apply those same things. With each day of warning time that we get, we should be exploiting that into dollars in terms of coming up with techniques that we do not have to spend all the money, essentially, until the build-up time comes, because industry is doing that daily to try to reduce cost.

Chairman NUNN. I would like to see anything either one of you have on this subject, because I share that philosophy. I think that is the way we have to go. And I think it is a totally different situation now looking at per unit costs than it was when we were building up with a huge number of systems and deciding which ones needed more money. And we had already geared up to produce 100 years units a year, and we were only producing 25. I think that is totally different.

Dr. HICKS. We have to have a totally different thought process now about this, no question.

[The information follows:]

JUST-IN-TIME WEAPONS

by
John E. Krings

Political change is surpassing technological advancement.

New revolutionary defense resource strategies recently discussed are beginning to nearly match the revolutionary political and ideological changes in the world.

In Ted Gold and Richard Wagner's "Cast A Long Shadow" article, long shadows, virtual deployments and artificial experience represent compelling alternatives to hollow forces. We don't have to return to the mistakes of the past. We can look to the tools of the future and exploit the causes of these new times. Economies, technologies and communications have shown the rational world the futility of continued readiness for large scale war. These same three tools can shape the defense posture of the future.

As we pass from a defense posture of readiness to a posture requiring mobilization to respond, we can begin to prepare for this new status gradually. New weapons being planned and developed should consider new approaches that are only now becoming possible. As warning time and our need for readiness reduces, we must exploit this change. Each day of warning time can be translated into defense cost reduction. In nearly every contemporary activity time is money.

Future weapons design should focus heavily on this fundamental change. Many commercial products reflect this approach. Today, many retail and industrial products are assembled and shipped after purchase. The reduction in cost by not investing in assembly and transportation until time of sale is substantial. Transportation times and costs are low and delivery reliability is very high. Just-in-time is becoming a growing process at the other end of manufacturing, at assembly and delivery. We are all familiar with the just-in-time process to provide components to a manufacturing and assembly activity at the rate they are needed, striving to eliminate expensive inventory. Matching the component production to the manufacturing/assembly requirement reduces total cost. Weapons that can be assembled and deployed during mobilization avoid the cost of assembly and transportation until their use is imminent. Further, and perhaps equally important, the assembled weapons can be designed for a short life. We are mobilizing to deliver the weapons. The current requirements for extended dormant reliability or long operating life adds significantly to the cost of weapons. Design goals for weapons systems to support this "mobilization" status should be different. Weapons effectiveness and limited life high availability cannot be reduced. The design must include an assembly process that can respond within the time line of mobilization. Typical improvements and modifications can be more easily and less costly incorporated in weapons systems without disassembly and reassembly.

Not all defense products are candidates for just-in-time weapons, but many could be. We must systematically assess the new weapons for application of this new approach. The degree of subassembly is a function of warning time and time to assemble and transport; recognizing there will be other activities competing for transportation and assembly resources. Development of this concept in weapons design must be incentivized.

Undoubtedly, there are many other applications that will show value when evaluated. A premium in design must be a strong focus on human factors. Less training to succeed in employment of the weapons becomes a significant design payoff. Examples are the follow-on weapon to Stinger and the AAWS-M. These shoulder fired weapons could be designed for subassembly only, to be assembled and deployed during mobilization. Component manufacturing facilities could be established and system design could include the just-in-time concept. A much greater emphasis on simplifying and automating the weapon to reduce training would be a very high payoff. Designed to point and shoot, by anyone, with the "directions on the box" and little or no initial or recurring training. Simulators and "artificial experience" can replace much of the prior training and exercises. Weapons must be produced to verify the transition to production, insure effectiveness and suitability and to develop tactics. Only that number needed (if any) to support the continued short response requirements would be deployed.

The most challenging aspect of these new initiatives is the requirement to change. Change in a government agency conveys need for improvement, need for improvement suggests problems and few military or government leaders admit there are any problems with their activities. Without leadership that constantly seeks improvement and recognizes the need to change, these commercial practices and innovative resource management concepts will fall on deaf ears. Typically, change in the Department of Defense is legislated by Congress.

RELATIONSHIP OF CONCURRENCY AND RISK

Chairman NUNN. We mentioned the question of concurrency and risk. I think everybody would agree that the higher the risk, the more careful you want to be about concurrency. Correct?

Dr. HICKS. Absolutely.

Chairman NUNN. Who determines risk in the Pentagon in a given program? Where is that risk determined? Who is the one Congress—we cannot determine risk over here except what somebody comes over and testifies. We are not in the risk-determining business on technology. So who do we look to to be accountable in the determination of risk?

Dr. HICKS. There is actually, and there has been for a number of years, if you look back historically, I would say that 1976 was kind of a bench mark in this for things to become formalized. And that is when they made this—the first Under Secretary for Research and Engineering, who by the way, until about 6 months before I entered the Pentagon, really had most of the authority the Under Secretary for Acquisition has today. But there are these milestones that came out. If you remember the study that Congress had—I believe it was Senator Chiles from Florida in 1974, that time period—it is a very good study that eventually talked about the various milestones in defense. And those milestones, if they are really adhered to tend to qualify the risk. The problem that I found, Senator, is—as it was stated by other people today—that the policy is there, the implementation is not.

In at least two weapon systems that I was involved in when I was Under Secretary, there had been no DSARC-0. I guess it is called DAB now, DAB-0 or DAB-1. There had been no formal look

to see if it made sense from the standpoint of risk to proceed with the program, or whether or not you really were going to benefit enough to proceed at one.

And I was asked to make decisions on going ahead with the production on things or research and development on other things, where there was insufficient data, because those had been ignored before that. They had not happened. And as a matter of fact in one program, which you remember, I stopped the program and had the Defense Science Board look into an Army requirement which we found was in total disarray. And so there are good formal things in the Defense Department set up to look at risk and to evaluate when things should happen. If they are not used, they do not do much good.

Chairman NUNN. How do we tell whether they have been used or not?

Dr. HICKS. There are DAB reports. It seems to me your staff can look at those. And if they see a program coming up and there is no DAB-0 that has been done, that ought to ring a big bell with your staff that something is missing here; where is that report? It did not exist.

Mr. KRINGS. The easiest thing is hind-casting. You can look at the programs and look at how the risk was assessed. The risk assessment obviously dictated the schedule. The schedule and the proposed cost is a function of assessment of risk. And if you do not achieve the schedule and the cost, you obviously did not assess the risk properly.

It is not just that problems occur, it is the fact that it is not projected that problems will occur. The risk is reduced in order to make the program look more attractive. In many cases, the initial risk is done by the advocate. And then, often, it is up to others to mount an effort to overcome the risk assessment that is done by the advocate. So that usually prevails.

Dr. HICKS. That is one of the reasons we have a comptroller, one of the reasons we have PA&E, to be that red team that takes a look at these advocates and their stuff coming up from the services and tries to determine whether it has been done properly.

I feel, however, that there is a much more fundamental issue here. And that is the environment in which that whole thing is progressing. That it is the lack of trust, this whole feeling of, everybody is a crook and you cannot trust anybody, that prevails in much of our society today is really making it difficult for people to work together to assess risk properly. And so, it would be nice if you could expect the services to come up with this thing in a proper form in the first place and not have to have the kind of—and that could happen, it seems to me, if there is more of an environment where people who need things talk to the people who know how to build it, because they know what the true risk is.

The Assistant Secretary can sit up in a DAB meeting and listen to what PA&E says and the service says and try to make judgments, and very often he is a political appointee who does not know anything about it in the first place and has to make some judgment just based on his own intellect. But rarely do you have the kind of environment where the guy who is eventually going to

build it, sits you down and talks to the person who wants it, and people listen to this and try to evaluate how to proceed.

Chairman NUNN. But in our system, can the people who build it afford to tell the truth about that? Or will they then be in a situation where they are deemed not to be as competitive as those who tell lies?

Dr. HICKS. It is a very complicated problem, because the only thing I feel that you can do there is you can set up prototyping considerations where there are major penalties for lying for smoke. And I am a great believer in prototypes when they make economic sense. Now, prototypes do not necessarily mean a flying article. Because of all of our tools today, you can do an awful lot of prototyping on a computer. And you can judge whether—and I would think that is one kind of capability that the government should have, that they can take these things and look at them and determine—and contractors that lie should be penalized. They really should be penalized.

AMRAAM PROGRAM

Chairman NUNN. We have an example here of the AMRAAM missile that was deemed to be by the Air Force moderate risk, cost $75,000 each. We are 4 years behind schedule now, and the price is $425,000 each.

Dr. HICKS. The AMRAAM is a terribly important program for the country. It gives enormous force-multiplying capability to the Air Force in terms of its air-to-air situation. Many, many years ago when I was in industry a person who was a very, very fine designer really invented AMRAAM. And at that time it was going to weigh 100 pounds and on and on and on. What happens is that, first of all, requirements grow. We want it to do more. And we insist on the ultimate. For example, I have just heard of a failure on an AMRAAM test, which was four-on-four. I do not know how Jack feels about this, but let me tell you, for a complicated system like that to always work four-on-four, don't hold your breath.

Mr. KRINGS. But that is the problem. They advertised that they were going to do four-on-four. It was not an operational requirement, it was a program-generated demonstration.

Dr. HICKS. And they do not have to do it.

Mr. KRINGS. The AMRAAM problem is we advertised a miracle. And they take a long time, and they are very expensive miracles. The problem is over-ambitiousness of some of the programs. AMRAAM is not far behind its real true schedule, what it really takes to develop something that complex.

Chairman NUNN. In other words, the AMRAAM problem is that they should have made a better assessment to begin with, a more honest assessment about what it is going to cost, and how long it was going to take.

Dr. HICKS. Exactly.

Mr. KRINGS. Exactly.

Chairman NUNN. And its performance.

Mr. KRINGS. Exactly.

Dr. HICKS. And perhaps not made so many requirements. Maybe, say, look, we would love to have a force-multiplication of five. Well,

let us say, it is too expensive, too difficult. Let us make it two. That is an enormous capability. Most of the things we spend and start new programs on give you 5 percent improvements and things like that. So you already had an AMRAAM, a very major impact on our force-multiplication.

Chairman NUNN. You mentioned the whole climate of not trusting people, believing people are crooks and so forth. It is easy to see how you got that climate, when you have examples like that. What are people going to think about those who projected that this was going to cost $75,000 and was going to be on schedule?

Dr. HICKS. Some of it is due to the over-optimism of honest engineers, honestly who really think they can do it. Some of these tasks, Senator, that these people start to do, if they were not ultimate optimists, they would throw their hands up in the first place.

So, you find a human weakness involved in some of these things that I do not think you are ever going to solve. But there is a situation that as time goes on the advocates, in order to get congressional support, in order to get continued service support, are totally over-optimistic. And I think what has to happen, penalties have to be imposed on people, not criminal penalties, but where-it-hurts-the-pocketbook penalties for those kinds of over-optimism.

And perhaps, in the AMRAAM situation, there could have been. I think today there really could be much more simulation of the thing than we were able to do at the time the AMRAAM was started. I was never in favor, frankly, of the way the AMRAAM even was structured. The leader-follower issue and the fixed price development issue, let us take a look at what that did.

First of all, everybody in the game spent $50 million trying to win. By the time they got through, both Hughes and Raytheon probably had $75 million of their own money just trying to get the job. Hughes won the job, Raytheon lost the job. Hughes goes into a fixed-price development program thinking they know what they are doing, obviously they did or they would not have signed the contract. They lose something between $250 million and $300 million on the program in development. The follower, Raytheon, which I think did a very good job, very cleverly follows that and gets paid by the Air Force to come up with a development, is in a situation now to produce, could have spent $250 million in their factory, for example, to be much more efficient than Hughes, if they both had the same amount of money to start with.

So our whole approach to these things is just like our "isms," you know. We go from zero defects to total quality management. And, frankly, when you look at the way they are implemented, they all come out to have groups of people who are structuring to have jobs, I guess. But I do not think there is any simple solution to very complicated programs. And we are never going to expect perfection. But there is an awful lot we can do, I think, to try to understand that they are complicated and to be more realistic about what we expect from them.

Mr. KRINGS. I do not think that the people, the services and the others, start out with the concept of advertising a program far beyond what the capabilities are. But they believe that there is a climate that requires them to do that. They believe that there is a climate that requires them to do that, even if they are going to find

out later on that they were totally wrong and in great error. It will still survive. And I think some way or another, as Don says, and as we talked over and over, the discipline on the programs is really the key, because if they believe that is the way to do it, they are very good at doing what they believe.

Chairman NUNN. Thank you both for being here. You have been a great help. This has been a real help for the committee, a good education for us. Thank you.

Dr. HICKS. Thank you, Senator Nunn.

Mr. KRINGS. Thank you, Senator Nunn.

[Questions for the record with answers supplied follow:]

QUESTIONS SUBMITTED BY SENATOR J. JAMES EXON

FIXED TYPE CONTRACTS FOR DEVELOPMENT CONTRACTS

Senator EXON. In your written testimony you state: "fixed price development has been a failure." Why do you believe this is the case?

Mr. KRINGS. The track record speaks for itself. Both the time and costs to execute fixed price development programs have been grossly misrepresented. The list includes AMRAAM, TACIT RAINBOW, C-17, T-45TS, LRAACA (P-7), and many others. The technical product has been less than achievable because alternatives are not investigated or exercised to preclude renegotiating the contract.

Senator EXON. Because contractors have refused to bid due to the excessive risk?

Mr. KRINGS. No—just the opposite. They have bid and mutual agreements have been made between contractors and the Government that both parties know are not executable. The Government negotiator, program manager, and service acquisition leader can show an affordable price and the contractor signs up to an impossible task. The contractor has no alternative except not to bid. The contractor's extreme optimism and corporate funding allows him to sign the contract. His hope is to recoup the additional funds he must invest to execute the development in future production. Major program contracts exist today in which there is clearly no possibility of profit for the contractor even with full rate production of the system at a currently unrealistic rate and total number.

Senator EXON. Because contractors have sacrificed system performance to avoid cost overruns?

Mr. KRINGS. Again, no. Contractors have very limited flexibility in recommending alternatives to reduce cost, trade-off performance, or replace older technology with newer options. This is one of the primary flaws in fixed-price development. The Government has basically created a no-decision process that discourages innovation and improvement of the contractor system. The pain of contract renegotiation is far greater than the savings or improvement in nearly all cases. Who would determine whether this change might cause a re-competition? The implications are all legally driven not system capability, cost, and user need.

Senator EXON. One initiative being pursued in the development of weapons systems is the use of off-the-shelf technology in order to minimize risk and reduce development expenses. Do you believe fixed price production contracts may be appropriate before full operational testing is completed where off-the-shelf technology is emphasized?

Mr. KRINGS. I would agree if we had a disciplined system to categorize these potentially mature elements or systems. The use of off-the-shelf technology is a ploy that has brought us to many of the problems we face today in weapons acquisition. We are back to the issue of acquisition discipline. Recent off-the-shelf technology and non-development items advocates have argued for less testing and higher concurrency based on greater maturity and less risk. Sgt. York (DIVAD) attempted to integrate off-the-shelf technology and production components. In many cases, integration (done by an inexperienced integrator) is a greater risk than design and development. There are those few contractors who have integration capability and those many contractors who don't recognize their inability. MSE, the Army communications system, was more mature than off-the-shelf technology, it was a non-development item, a modification of a European system already fielded. The changes were significant; the fielded European system was really still in development. Operational tests were demanded prior to high rate production and wisely so. Significant improvements to software and configuration were necessary to reach fieldable maturity.

Fixed price production contracts may be appropriate before full operational testing is completed where off-the-shelf technology is emphasized or where non-development items are being acquired. However, the proponents, advocates, and acquirers, both in the Government and industry, typically misrepresent the maturity of the system. Additionally, they are usually reluctant to fully address the changes necessary or the adaptation required to fulfill the user's need. Evidence of operationally-oriented testing, evidence of prior successful integration, evidence of true understanding of the difficulty in meeting suitability requirements warrant fixed price contracts prior to operational testing. An objectively assessed profile of maturity or potential could easily be created. But, it must be objectively applied.

QUESTIONS SUBMITTED BY SENATOR CARL LEVIN

MX RAIL GARRISON CONCURRENCY

Senator LEVIN. The GAO has stated that there is considerable concurrency in the MX Rail Garrison program and that there are some unique technical problems that will need to be tested. These technical problems are:

A. The ability of the train to withstand launch effects;

B. The launch effects on the commercial rail bed and the ability of the train to resume mobile operations after launch;

C. The capability of the guidance and control system to recover specified levels of accuracy following rail transit; and

D. The effects of horizontal basing and rail movement on the missile.

The Air Force has tended to dismiss the seriousness of these technical challenges when asked about them. Will you comment on the degree of technical risk that is associated with each of these four unique characteristics?

Mr. CONAHAN. In our December 1989 report, we stated that the Rail Garrison test and evaluation master plan identified unique characteristics which required testing. In April 1990, the DOD assessed the overall risk for the Peacekeeper Rail Garrison as low due to the use of existing missiles and prior testing. We agree that there has been considerable testing of the missile; however, there has been no operational testing of the *complete* weapon system (integrating the missile with the launch car and launch control system).

The acquisition plan for the Rail Garrison production program states that the primary area of risk, from an overall programmatic standpoint, is the overlap between the full-scale engineering development and production phases of the program. The level of scheduled risk for the program is driven by the fact that critical design reviews (CDR) will just be completed and system test programs will barely be underway by the time the first production contracts are awarded. The plan goes on to say that any design changes to subsystem hardware as a result of CDR or necessitated by the analysis of test data may impact production contract schedules. Implementation of any design changes, although not anticipated, could require creativity on the part of management in order to preserve schedules without a significant increase in cost.

Our main concern with the Peacekeeper Rail Garrison program is that adequate operational test and evaluation of the complete weapon system will not be conducted before proceeding into production. We recommended that the initial Rail Garrison production decision be delayed until some operational test and evaluation is conducted on the complete weapon system.

Senator LEVIN. If these four characteristics were not fully tested before we purchased large numbers of MX trains, what possible problems could they cause after the MX Rail Garrison was deployed?

Mr. CONAHAN. Determining if systems work after production starts can significantly increase the cost of such systems if major problems are discovered as a result of the testing process. Also, you may end up with less capability than desired at the outset of the program. Potential problems that could affect the overall capability of the weapon system include (1) reduced/restricted geographical areas the train could operate in; (2) an adverse impact on the required accuracy of the weapon system; and (3) reduced reliability/availability of the weapon system.

QUESTIONS SUBMITTED BY SENATOR JOHN GLENN

SERVICE TEST ORGANIZATIONS

Senator GLENN. Each of the services has separate development and operational test organizations. However, it is my understanding that there are some differences in the approach each takes toward testing. Could you describe how each of the services conducts its technical and operational testing, and give us your opinion as to how well they are doing their job?

Mr. KRINGS. These are short "characterizations" rather than indepth assessments of service approaches.

The Army expects the development contractors to conduct most of the technical development testing. The test planning is approved and monitored but the expertise and execution is done by the contractor. However, within the Army arsenal system, many defense products are designed, developed, and in some cases produced by the Army. This latter process and variation of it has adversely effected the progress of land systems. As an example, system integration in tanks and other equivalent vehicles is only now being done, and only by significant corporate investment and major efforts to influence Army requirements, research, and development.

The Navy closely controls the technology and design of submarines and surface vessels. Considerable technological progress could be made if initial design and development of the systems were prudently shifted to industry. Getting the contractors more involved and knowledgeable of naval procedures and requirements would bring the analytical, modeling, and simulation power of the defense industries to exploit new technology in naval vessels. The defense industry could significantly advance underwater and surface vessels' capability. The Navy has a very strong presence in the development testing of submarine and surface vessels. The program managers typically feel responsible for the progress of development based on the dominance of the Navy during design. Aircraft acquisition in the Navy is somewhat different. The Navy often dictates aircraft technical system design and is closely involved in the system design decision process, however, they relegate dominant control of development testing to the contractor with periodic evaluations.

The Air Force encourages and rewards contractors for technological progress. They typically pick the best contractor solution to a military requirement rather than a contractor response to a designed technical specification. This approach demands that Air Force contractors understand both new technology and the user's goal. New technology and its potentially new application are the basis for Air Force contractor programs. The area of satellites and space systems including ICBMs and the survival of these systems suggests very innovative, state-of-the-art proposals.

While the Air Force typically encourages the contractor to do the design and trade-off activities, they have a policy of participation in development testing sometimes to the point of total control. This level of involvement by the customer affects the process of development. In many cases, the Air Force wants to do the development testing and control the decisions during problem solving. The future impact of this influence is felt less by the often transient Air Force manager than by the permanent contractor team. Ultimate responsibility for cost overruns and schedule shortfalls becomes more difficult to define. While sometimes denying the contractor the freedom to direct his progress, it often provides a legal argument why he couldn't. More responsibility must be given to the accountable contractor with incentives and penalties for success and failure, a reward system unenforceable in the Government.

Operational testing, and the operational test agencies (OTAs) vary from service to service.

The Army Operational Test and Evaluation Agency (OTEA) is very influential in Army acquisition. After much criticism in DIVAD and Bradley, the OTEA has responded with significantly improved processes to develop test plans, acquire data systems, improve test facilities, and enhance independence. Independence, the ability to "tell it like it is," continues to be an uphill battle in the Army acquisition process. The tests are more robust, the organization is more recognized, and the independence is improving but needs strong support from the leadership.

The Navy Operational Test and Evaluation Force (OPTEVFOR) is by far the most independent and objective operational test organization in the military services. The Army and Air Force operational test organizations were created to bring this needed objectivity to the acquisition process. The strong independence of the OPTEVFOR has caused some problems in the past when they were not involved early in the acquisition process (argued as a defense against becoming advocates). They required operational capabilities not specified in the contract. Recent earlier in-

volvement (with due regard for potential advocacy) has precluded operational and design goal differences or provided for a process to fulfill new operational requirements without penalizing a successful program. Recent commanders of the OPTEVFOR have improved the analytical and simulation assessment capability by using the Center for Naval Analysis as an independent support organization. The OPTEVFOR owns and operates permanent operational test capabilities such as the VX-4 and VX-5 operational test squadrons. Other services rely totally on user organizations to provide the blue forces necessary to execute operational tests. The operational test agency plans, directs, and reports on the test.

The Marine Corps Operational Test and Evaluation Agency (MCOTEA) is an independent organization with the same character as their USN counterpart.

The Air Force Operational Test and Evaluation Command (AFOTEC) is the largest of the three services. The staff, analytical support, and test capabilities are more extensive than the other services. Unfortunately, the independence from leadership advocacy is weak. In 1985, the AFOTEC was not involved in special access programs, had little impact on acquisition decisions, and was often viewed as the dissenter or impediment to progress. Improvements in the AFOTEC's position have been made since 1985, but without a cultural change in the leadership of the Air Force, their independency will be a constant battle.

To some degree all services' military leadership and acquisition management view operational testing as a challenge to their judgment. The fundamental concept of being assessed by the troops is not welcome in a military organization. It becomes confrontational because a subordinate command is evaluating the product of a higher ranking organization. Personalities dominate. The objectivity and independence are usually challenged in the reporting and presentation of results. The test and testers are very responsible. The results are portrayed in the best light.

Few problems are unknown in development, but in many cases the independence of operational testing allows them to be surfaced. Developmental testing results can easily be controlled—sometimes prolonging the "discovery" of a problem, unfortunately maturing the defect. The discipline must be improved and the culture changed.

Senator GLENN. Are any changes needed?

Mr. KRINGS. Yes, but they are difficult. Proposals ranging from an outside the DOD test agency to having the OTAs report to Directorate of Operational Test & Evaluation (DOT&E) sound good to congressional staffers but really aren't workable for the participants. Senator Goldwater really understood the situation and his legislation, if enforced, could help significantly. It seemed quite simple and still does. The Commanders in Chief (CINCs) (not the services) determine their present and future warfighting needs. These needs are collectively reviewed by the Joint Chiefs of Staff (JCS). The Deputy Chairman of the JCS develops the operational requirement. This joint services operational requirement (JSOR) is presented to the Under Secretary of Defense (Acquisition) (USD(A)) at a milestone Defense Acquisition Board (DAB). The service, services, or lead service is designated and that service acquisition executive pursues the milestone acquisition process. Subsequent DABs review the progress of the program, reassess the threat and requirements, and decide on the next phase. The operational tests are performed, DOT&E reports, and the service acquisition executive, with DAB approval, contracts for full rate production. The only independent assessment occurs at Milestone III (or 111A) when DOT&E submits a Beyond Low Rate Initial Production report to the Secretary of Defense and Congress. Recently, DOT&E has required early operational assessments at Milestone II (or III), the start of full scale development (or Low Rate Initial Production). This was the process envisioned by Congress when the USD(A) was created.

After nearly 5 years of watching the process, I would make four recommendations.

1. Enforce the system that is in existence; milestone reviews with mandatory checklists that require re-statement of threat, requirements, and review acquisition strategy considering program progress funding and production plans.

2. A system maturity matrix for every major program. The matrix lays out milestone achievements and connects these achievements to funding and progress. The matrix is prepared by the program manager and must reflect the terms of the contract; it is the "contract" between the program manager and the USD(A).

3. Transfer service operational test organizations to the JCS. It is logical but will not be supported by the services. If the JCS establishes the operational requirement, the Under Secretary of Defense (Acquisition) acquires the system using the appropriate military service acquisition organization. Shouldn't the requirement makers determine if their requirement is met? Aren't they the real customers? The service

operational testers would report to a military commander (not OSD/DOT&E), that commander is responsible for the joint warfighting capability, not the service unique interests. This is the only way I know of to improve the OTEA and the AFOTEC's independence. The OPTEVFOR would gain the least, but overall it could lead to much more objectivity in reporting. Three positive side effects would occur. First, the requirements process should improve since the JCS would be forced to do a better job of establishing measurable requirements based on warfighting need. Second, a stronger awareness of the need for joint interoperability would result. The services would learn from each other, and joint service warfare, as it really occurs, would become more important. And third, common equipment would evolve naturally rather than adversarily as we do now. Testing together as we must fight together would bring a needed ingredient of realism.

4. The most drastic improvement I would propose is a Defense Systems Development Agency (DSDA)—an organization matrixed by products and military service responsibilities that would be accountable through the USD(A) to the JCS for acquisitions that fulfill the military operational requirements established by the JSOR and tested and evaluated by the JCS operational testers. This development agency would contract with industry, manage programs, and be responsible to the user (JCS/service). They would be held accountable to satisfy the warfighting customer's priorities and provide acquisition expertise and discipline. They would be neither designers nor producers but would maintain expertise in contracting, source selection, program management, and, foremost, "customer satisfaction," ensuring that user needs is the most important goal. The DAB progress reviews and the JCS operational tester reports would measure the DSDA's ability to assign risk, schedule, manage, and properly fund acquisition programs. Service budgets would be fundamentally operating, training, and maintenance budgets. Procurement and R&D would be accomplished by the DSDA. The historical budget tug in the services between operations and procurement would be relieved. The CINCs/JCS would absorb the services' requirements staff. The procurement activities would go to the DSDA.

ROLE OF THE GAO IN TESTING

Senator GLENN. Mr. Krings and Mr. Conahan, it is no secret that the two organizations that you represent here today have had their differences in the past over the adequacy of testing. What do you see as the proper role for each of these organizations in the acquisition process?

Mr. KRINGS. I wish the need for both the GAO and the DOT&E could be reduced. The GAO typically responds to a congressional request for an investigation. The GAO is funded by Congress. It is not unexpected that the congressional member will request a GAO report on an issue the member has a strong position for or against. My opinion, based on close relationship with many in the GAO during these investigations, indicates strong internal control of GAO reporting to support the position of the requesting congressional member.

Often the GAO investigating staff has minimal knowledge of the weapons system and less of the user need. While in the DOD, my staff spent an inordinate amount of time trying to educate the many GAO investigators hoping for a more knowledgeable assessment. Limited technical experience and education and often no visits to operational users to understand their views too often characterized the GAO team. There are highly qualified GAO personnel in the field of operational testing but they are few and perhaps viewed as sympathetic. One must question the independency of an organization funded directly by Congress that consistently performs investigations of government activities sponsored by a congressional member opposed to this action by the government. The independence and expertise of the GAO should be objectively evaluated to calibrate the value of its contribution.

The DOT&E is a tribute to the lack of independency of the service operational test agencies. As a creation of Congress, the DOT&E has true independence. Some factions of Congress that helped create the DOT&E hoped for a mindless junkyard dog having allegiance only to these few exploitive creators. The DOT&E's role is adequately and properly legislated. Concerned, responsible congressional organizations and members use the DOT&E fairly and judiciously.

The efforts of the GAO reporting on the DOT&E nearly equals the total efforts of the DOT&E. While the DOT&E needs and should continue to be monitored and reported on by the GAO, an annual audit system could save significant cost and provide the constructive criticism so vitally needed. The energy expended during the highly adversarial data gathering process of a GAO investigation of the DOT&E could be used to help the user get a better weapons system.

Mr. CONAHAN. The GAO's role is to evaluate whether the individual DOD organizations carry out their assigned roles and responsibilities effectively and efficiently. Periodically, the GAO also evaluates whether the organizations are carrying out their assigned responsibilities in accordance with laws, regulations, and DOD directives. In addition, the GAO evaluates whether specific weapon systems are being developed, produced, and tested in accordance with rules and regulations. The GAO has consistently identified problems related to weapon system cost, schedule, and performance. As I noted in my testimony, we have found that the problems in procurement are more often associated with the absence of compliance with policies and procedures rather than shortcomings in the policies and procedures themselves.

The DOT&E's role is to independently oversee and coordinate the military services' planning and execution of operational testing, independently evaluate test results, and objectively report test results to DOD decisionmakers and Congress. In the test resources area, the DOT&E's role is to perform oversight and policy functions by reviewing and making recommendations to the Secretary of Defense to assure that adequate test resources are acquired by the military services. Our past reviews of the DOT&E have addressed two general areas—improvements needed in the effectiveness of their oversight, and our concern regarding their independence in oversight with regards to the acquisition and management of test resources.

PROTOTYPING

Senator GLENN. Dr. Hicks and Mr. Krings, the 1988 Packard Commission recommended that a high priority be given to building and testing prototype systems and subsystems before proceeding with fullscale development. The Air Force's ATF DEMVAL program is an attempt to follow that recommendation. What is your opinion on the use of prototype systems in the acquisition process, and how do you rate the ATF DEMVAL program?

Mr. HICKS. I am now and have long been a strong believer in prototyping as an excellent way to approach a major program development. One of the major problems in the acquisition process, particularly in more recent times, has been the fact that programs are not started properly. We are finding that, at the outset, there is a considerable lack of communication between the user of a system and the developers of that system. Communication is vital at this time because only the users have a full appreciation for the military requirement and only the producers have an awareness of what is technologically possible within given cost constraints. As a consequence of laws and regulations that are designed to promote fairness in competition and "procurement integrity," we have virtually terminated communication between the user and producer.

One of the most unfortunate consequences of this greatly reduced dialogue is the fact that contractors become tempted to overstate the technology possibilities in order to get a piece of the action. Prototyping forces the contractor to prove what is possible for him to do within the established cost parameters. It also forces the customer to recognize the degree to which his military requirements can be met for the funding levels that he can reasonably expect.

The ATF DEMVAL appears to be an excellent example of how effectively prototyping can contribute to a major program development. The lines of communication between the people responsible for program management and the contractor teams are firmly established and open. There is a continuing dialogue between the two, particularly with regard to the major technology risks: stealth and the feasibility of supersonic cruise. Tradeoffs on cost, weight, and performance are under constant review. For these reasons, the program has been started correctly and will very likely produce fewer unknowns as we move into fullscale engineering and development.

There is, however, one unfortunate aspect of the ATF program that deserves mention. Both contractor teams were required to put up an excessive amount of money to become players in the program—a joint sharing of risk with the Government, if you will. With the downturn in Defense appropriations and the likelihood that fewer aircraft will be procured than originally planned, even the winning team in this competition is likely to end up losing money on the program.

Mr. KRINGS. Prototype systems should be built when new technologies are critical to a weapon being developed. Earlier stealth prototypes were prudent, new composite combat land vehicles should be prototyped, the JVX prototype for V-22 tilt rotor technology was valuable, NASP prototyping is necessary, these are examples of the proper use of prototyping. The LHX does not need a prototype, there is nothing fundamentally new—just an incremental improvement in helicopters achieved by adapting fixed wing and other rotary wing technology. In the ATF, the only signifi-

cant technology is super cruise (supersonic cruise without afterburner). This is really a propulsion (engine) uprating that increases thrust along with tailored drag reduction, neither of which are new technologies—really incremental improvements. Just as there was little gained from YF-16/YF-17 prototyping when compared to F-15 and F-18 non-prototype development, it appears the primary product of prototyping is establishing a program with a visible goal that leads to funding support. In the case of the ATF, it fills the time really needed (and not adequately planned) to develop the engines and complete design and integration reducing schedule risk in full scale development.

The value of prototyping aircraft, space craft, and land vehicles is a function of the ability to model and simulate and the development and manufacturing time required. Prototyping radars, missile guidance systems, jammers, communication systems, and electronic subsystems are usually affordable and valuable—lead times are shorter and costs are lower.

SIMULATOR TESTING

Senator GLENN. Dr. Hicks and Mr. Krings, simulators and computers are being used more and more to conduct both development and operational testing. Do you believe that we should rely more on simulator testing and less on actual testing of the hardware in a realistic environment?

Mr. HICKS. Simulators have become extremely important in the systems acquisition process, not only for testing but also within the engineering development and design phases as well. With the vastly improved memories and processing capacities of today's supercomputers, considerably more development and test can be simulated than was ever possible previously. These simulations are proving statistically to have a remarkably high degree of reliability as well—within 2 percent in many cases.

One of the chief advantages of simulation is that the user is permitted to enter the evaluation process earlier, and both developmental and operational testing begin earlier and become more closely merged with one another. I might point out that this merger, in my definition of the term, is a facet of concurrency that is an important improvement in the acquisition process.

It is important to point out than computer simulation has not, nor in my judgment will not, completely eliminate the need for considerable operational testing. This means, in the case of an aircraft development, it is still necessary to get out and fly the aircraft to confirm its performance against what the computer says it can do. It is also the surest way to discover what I like to term the "unknown unknowns" in a program—those problems that never can be anticipated or discovered any other way than in the actual employment of the weapon system. The difference we find now is that a great deal of the more expensive and repetitive tests can be reduced or eliminated. So much additional data is now available through simulation that we are moving to an era where we are primarily confirming what we already know rather than discovering what we didn't know.

Mr. KRINGS. We really don't have any other option. The issue is when is it really better, or possible? Reasonable, representative real operational testing should never be eliminated. It confirms and supports modeling and simulation. It reminds us we need improvement in these disciplines. Other factors influence realistic operational testing: environmental restrictions, significant increases in weapons' effective range, complex synergism between systems, security limitations, cost and time to produce representative test articles, lower production numbers, safety due to increased lethality and night/adverse weather operations, and mathematical probabilities are vastly increased with multi-use weapons; all these factors plus continued improvement in modeling and simulation demand a well-integrated test plan. We need both simulation and real testing and we must integrate the attributes of both. They are supportive, not competitive.

Senator GLENN. What is the proper balance?

Dr. HICKS. The question of how much simulation can be used to substitute for field testing is unanswerable in specific terms. This is a matter of judgment that can only be resolved case-by-case by a management team that is fully informed and closest to the issue.

Mr. KRINGS. The proper balance is program and product dependent. However, without a well-funded simulator and operational test capability we cannot use each for its best role. The well-integrated development test, simulation, and operational test plan achieve the balance necessary to provide the evidence decisionmakers need.

Senator GLENN. Mr. Conahan, does the GAO have the proper expertise to determine the adequacy of technical and operational testing of military hardware?

Mr. CONAHAN. We rely heavily on the DOD's military service operational test agencies who are responsible for the testing of major weapon systems. These organizations are very candid and often identify where the testing of the weapon systems has not been adequate. In many cases, as a result of our reviews of test reports and discussions with military personnel, we have been able to identify problems that had not been made known to DOD and congressional decisionmakers.

In addition, we often evaluate the validity of testing methodologies used by the DOD's testing agencies. We have professionals that have worked in the testing area for a number of years. Also, we have professionals that have worked for extended periods of time on specific weapon systems who are very knowledgeable of performance issues and risk. At times however, we hire experts to help determine the adequacy of technical and operational testing of military hardware.

QUESTIONS SUBMITTED BY SENATOR STROM THURMOND

SUCCESSFUL CONCURRENCY

Senator THURMOND. The opponents of concurrency cite the Sgt. York, the F/A-18, and the HARM missile as examples of failures of concurrency. Could you provide examples of successes using the concurrent development process?

Mr. KRINGS. Don Hicks' reference to the Polaris program in his testimony is an example of successful concurrency. The MSE system fielded by the Army represents a successful moderately concurrent program.

DEVELOMENT TIME

Senator THURMOND. During your tenure as Director of the Operational Test and Evaluation Agency you initiated the system maturity matrix. One of the first weapon systems to employ the matrix was the B-2 program. Could you tell us how the matrix has benefited the development of the B-2 and has it lived up to your expectations?

Mr. KRINGS. The system maturity matrix (SMM) in the B-2 program becomes operative this year. The fiscal year 1990 Authorization Act used the SMM approach to establish test achievement as a requisite for funding release. Indications are the fiscal year 1991 bill proposes using the SMM as the basis for budget decisions. The keen awareness of Congress, DOD, Air Force, and contractor to the test progress have already achieved the primary goal of SMM. I proposed this fundamental approach to then Secretary Weinberger in the absence of any checks and balances between B-2 program funding and program progress. In view of the B-1 problems associated with testing after production, the B-2 had to be an event-driven program. Secretary Weinberger and later Secretary Carlucci strongly supported the SMM approach. Senator Nunn and Congressman Aspin agreed to use this process to monitor the B-2 program. I might add that an SMM is in place to measure the progress of the C-17 program. The SMM is only a tool in the acquisition process. In the hands of a capable executive, it will provide fair discipline. This approach to acquisition discipline was strongly supported by Bob Costello, the former USD(A), and appears to be an integral part of the policies of the current DOD acquisition team. Without continuous enforcement, it will become ineffective. More effort is needed now.

ELIMINATION OF CONCURRENCY

Senator THURMOND. The opponents of concurrency advocate a complete prohibition of concurrent development. They advocate that no weapon system should be deployed until it has undergone a full battery of operational tests and is found to be free from defects and effective in realistic, combat-like situations. In your judgment, is this a realist approach?

Mr. CONAHAN. As I noted in my testimony, the question of how much concurrency an acquisition program should have must be evaluated on a case-by-case basis. However, the extent of concurrency should be decided early in the acquisition process and it should not be considered a barrier to early operational testing. By "early" testing, we mean some operational testing before production start-up. And it is especially important that critical subsystems be tested early. The development and testing of such subsystems should not lag behind the development of a weapon system as a whole.

Concurrency can be an effective acquisition strategy when it is well-planned and controlled. The problem has been, however, that too many systems have been structured with too much concurrency as a matter of practice and not well-justified. Concurrency has been used as an excuse to shorten the acquisition process rather than to meet a time critical deployment date.

As early as 1985 we addressed the issue of whether sufficient operational test and evaluation results were being obtained before production began on major weapon systems that were concurrently developed and produced. We reported that concurrently developed and produced weapon systems may be justified on an exception basis to meet certain exigencies but concurrency should not prevent decisionmakers from having information to assess operational performance before production start-up.

We do not endorse or support lengthy development periods that may result in the procurement of an obsolete system. It all seems to boil down to a question of risk. The greater the risk, the lower the concurrency should be.

We realize that complete prototype systems may not be available for testing because of cost, time, technology, etc. However, in such cases, it may be more appropriate to operationally test and evaluate those critical subsystems or components that present the highest risk. In any event, we believe that if concurrency is to be made part of a system's acquisition strategy, the program should be structured to allow for timely test and evaluation to identify risk and minimize the chance that a system will be produced that cannot do its job.

CANCELING PROGRAMS

Senator THURMOND. In your judgment, is it too late to restructure or terminate existing programs that have a greater degree of concurrency than you or the Department of Defense want?

Mr. CONAHAN. The key to avoiding problems of concurrency is knowing early in the acquisition process whether a weapon system will perform as intended. That knowledge should largely come from early operational test and evaluation before production decisions are made. If major problems surface as a result of testing, a system in full production (even if it is called "low-rate initial production") is clearly more difficult to terminate than a system in development. This sort of predicament can be avoided by sound acquisition planning that permits the earliest possible operational testing.

The GAO does not believe that it is too late to restructure or terminate existing programs that have a greater degree of concurrency than necessary. Each program has to be evaluated on its own to determine the most prudent course of action giving full consideration to cost and schedule impacts. Where possible, programs could be slowed down to allow for a reasonable amount of operational testing to ensure that the weapon system will perform as intended. However, if a weapon system has major failings that cannot be corrected at reasonable cost, the GAO believes that the program should be terminated. The DOD should not be caught in the position of spending funds on a system that will not be effective. We cannot afford the same experience we had with the DIVAD program.

C-17

Senator THURMOND. In your judgment, why is the C-17 a risky development program? I understood that the majority of the aircraft systems were off-the-shelf items.

Mr. CONAHAN. It is our understanding that the C-17 is a "state-of-the-art" transport aircraft. However, the C-17 employs few technologies that have not been used on other Air Force or commercial aircraft. Our analysis of the cost of the C-17 shows that the main drivers of cost are related to the integration of the component systems and structures into a workable aircraft, and the testing of these same systems and structures to ensure that the aircraft will be able to meet strict performance requirements and warranty provisions. Even though the Secretary of Defense recently decided to cut the C-17 procurement from 210 to 120 aircraft, the GAO is still concerned that the aircraft will be produced before important testing of the integration of component systems and structures is completed.

FUNDING

Senator THURMOND. What impact does the uncertainty of program funding levels have on the degree of risk associated with concurrency?

Dr. HICKS. Overall, uncertainty in program funding has a negative effect across the board on good management practices. Concurrency is no exception. Most of the more experienced professionals within the acquisition process will put funding instability high on the list of those factors that have a detrimental impact, with corresponding cost implications, on any system development.

Let me use the B-2 program as an example. As a result of the major aircraft review, the program has essentially been halved, and we still do not know what the program will look like after Congress acts on the fiscal year 1991 budget proposals. But we can assume that funds will not be added beyond what the OSD has requested. Faced with this dramatic set of uncertainties, the B-2 program manager and contractor have no way of planning for the level of concurrency that can effectively be employed, within the bounds of good management, until they have a grasp of the levels of funding to be appropriated. To complicate the issue further, under our present system, the dilemma forced by funding instabilities will continue each year until the program is completed.

C-17

Senator THURMOND. Do you agree with the Department's assessment that the technology and producibility risk for the C-17 is low? If not, why not?

Dr. HICKS. I agree with the OSD position that the C-17 program has been a relatively low-risk effort. It has, since the outset, relied on demonstrated technologies, including a commercially certified engine and other technologies that were demonstrated in the YC-15 prototype program. The full-rate production decision is not going to be made until deficiencies discovered during durability testing are corrected by Douglas at no additional cost to the government. In addition, the warranties for performance, reliability, and maintainability are the most extensive that have thus far been incorporated into a DOD program.

Senator THURMOND. What do you consider to be the greatest risk with the C-17?

Dr. HICKS. Having stated my opinion that the C-17 is a relatively low-risk program, there remains one risk that the program management team cannot control—funding instability. The reductions in funding for the C-17 in fiscal year 1990 have already had a negative impact on program costs, and any future vacillations will further exacerbate this problem. Funding instabilities not only increase program costs but they also greatly affect the negative quotient of public opinion. Too often, cost increases of this sort are used by critics to illustrate ineptitude on the part of the industry and Government program managers, resulting in a downward spiral for what otherwise was a healthy, well-managed effort.

Chairman NUNN. This hearing is adjourned.

[Whereupon, at 11:40 a.m., the hearing was adjourned.]

DEPARTMENT OF DEFENSE AUTHORIZATION FOR APPROPRIATIONS FOR FISCAL YEAR 1991

THURSDAY, MAY 24, 1990

U.S. SENATE,
COMMITTEE ON ARMED SERVICES,
Washington, DC.

MANAGEMENT STRATEGIES FOR THE DEFENSE BUILD-DOWN

The committee met, pursuant to notice, at 9:05 a.m., in room SR-222, Russell Senate Office Building, Senator Sam Nunn, (chairman) presiding.

Committee members present: Senators Nunn, Exon, Bingaman, Dixon, Wirth, Warner, McCain, Gorton and Coats.

Committee staff members present: Arnold L. Punaro, staff director; Andrew S. Effron, general counsel; Marie Fabrizio Dickinson, assistant chief clerk; and Daniel G. Sakura, research assistant.

Professional staff members present: John J. Hamre, William E. Hoehn, Jr., David S. Lyles, Michael J. McCord and William H. Smith.

Minority staff members present: Patrick A. Tucker, minority staff director and counsel; Jonathan L. Etherton, George W. Lauffer, and Mark B. Robinson, professional staff members.

Staff assistants present: Barbara L. Braucht and Debra A. Rice.

Committee members' assistants present: Andrew W. Johnson, assistant to Senator Exon; Kenneth N. Luongo, assistant to Senator Levin; John Gerhart, assistant to Senator Bingaman; Milton D. Beach, assistant to Senator Glenn; Leon S. Fuerth, assistant to Senator Gore; Jefferson B. Seabright, assistant to Senator Wirth; Terence M. Lynch, assistant to Senator Shelby; Melvin G. Dubee, assistant to Senator Byrd; Patrick F. McCartan, assistant to Senator Wilson; Anthony H. Cordesman, assistant to Senator McCain; Robert M. Soofer, assistant to Senator Gorton; Charles G. Pearcy, assistant to Senator Lott; and Eric H. Thoemmes, assistant to Senator

OPENING STATEMENT OF SENATOR SAM NUNN, CHAIRMAN

Chairman NUNN. The committee will come to order. Dr. Perry and Dr. Gansler, we will be pleased if you would have a seat.

The committee meets today to receive testimony on management strategies for the defense build-down. There is a growing perception that the dramatic changes in Eastern Europe should be accompanied by significant savings in defense expenditures.

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There is no consensus at this time, however, as to the amount, the timing, or the nature of the potential savings. Nor has there emerged a consensus as to the threat and the strategy we should develop in order to deal with that threat in the future.

But in the face of a changing threat and shrinking budgets, I think it is crucial that we develop a new resource management strategy for national defense programs. The Packard Commission and others have suggested a number of fundamental principles that should guide our resource management strategies: fly before buying; emphasize product improvements over new starts; maintain U.S. technological superiority; develop realistic production rates; and promote cooperation and cooperative research and development efforts with our allies.

Today, we will receive recommendations from two very well-known experts on the defense resource management policies needed to promote a rational and efficient build-down. This is part of a continuing effort by our committee to develop investment and procurement policies that will provide a sound national defense in the era of diminishing defense resources.

Bill Perry is Co-Director of the Center for International Security and Arms Control at Stanford University and also serves as Chairman and Chief Executive Officer of Technology Strategies and Alliances. During the 1970s, Bill served as the Under Secretary of Defense for Research and Engineering. During the 1980s he was a vital contributor to the Packard Commission and Scowcroft Commission, as well as the Defense Science Board.

Jack Gansler is the Senior Vice President and Director of The Analytical Sciences Corporation and is a Visiting Scholar at Harvard's Kennedy School of Government. He served on numerous Government advisory boards including the Defense Science Board and was a senior consultant to the Packard Commission. His writing and his lectures on acquisition policies have earned him a well-deserved reputation as a leading authority in this field.

We have heard from both of our witnesses in years past. They have always made a tremendous contribution to this committee's deliberations and to the national security of the country.

We will first hear from Dr. Perry this morning and then from Dr. Gansler. Then we will have questions for both witnesses.

Senator Warner is not here yet. When he comes, we will have his opening statement.

Senators Dixon and Thurmond have prepared statements that they wish to have included in the record.

[The prepared statements follow:]

PREPARED STATEMENT BY SENATOR ALAN J. DIXON

Mr. Chairman, today the Armed Services Committee meets to receive testimony on management strategies for the defense build-down. I welcome our distinguished witnesses, Dr. William J. Perry and Dr. Jacques S. Gansler.

Effective management has of course always been an essential and highly sought after U.S. defense policy objective. However, in the austere defense funding environment that is now emerging, good management strategies are more essential than ever. The Chairman of this committee has focused debate on improving our defense management and resource strategy by reiterating the call for us to "think smarter, not richer." Included in this approach is reducing concurrent development and production, lowering the costs of procuring and maintaining weapons by—in part—improving existing platforms and reducing new starts, maintaining technological supe-

riority, and preserving a viable industrial base. These are worthy goals, and I commend the Chairman for his efforts to direct attention toward this area of our Nation's defense policy.

I, too, am interested, and have been for some time, in improving U.S. defense management and resource strategies. We now have an Under Secretary of Defense for Acquisition, and I believe that this post has helped improve the way we run our acquisition programs. Moreover, I have long been concerned about preserving a viable defense industrial base, and I am determined that we must not allow critical manufacturing capabilities to erode.

Also, I am very much in agreement that we can save defense dollars by emphasizing product improvements over new starts. If we have an adequate capability already, I see no automatic reason to rush ahead with an expensive replacement. We can manage our defense resources more efficiently by, in many cases, skipping the next generation system while continuing with research and development. Instead of committing to costly new starts, we can in these instances continue to rely upon and improve the capabilities we now possess.

I believe that these are some of the approaches we must consider for the management of our defense acquisition programs now and in the future. I hope that this hearing will provide an opportunity to examine these ideas as well as others.

Mr. Chairman, I look forward to hearing from today's witnesses.

PREPARED STATEMENT BY SENATOR STROM THURMOND

Thank you, Mr. Chairman:

I join you in welcoming Dr. William Perry and Dr. Jacques Gansler to this morning's hearing. I would also like to congratulate you for scheduling this hearing on how to manage the defense build-down—which appears to be a steamroller over which no one has control.

Although everyone knows that the United States will reduce forces and cut programs, very few people have come forward with ideas on how to effectively manage the cuts. If we make the cuts in a haphazard manner, there is the potential of damaging our military capability and economy. We may also do irreparable damage to our capability to rapidly rebuild our forces.

Mr. Chairman, Senator Bingaman and the Defense Industry and Technology Subcommittee have been looking at many of the issues that you consider critical to the draw down of the defense industrial complex. My friend from New Mexico and his colleagues have some good ideas which we must consider as the committee reviews this important issue of downsizing the defense program.

New ways of conducting the business of defense will require adjustments from the Department of Defense, the defense industry and the Congress. We all have contributed to the sins of the past. We all have to work together and adjust our ways to make the future better. Today's hearing is a starting point to a process that I hope will bring evolutionary rather than revolutionary changes to the Nation's defense programs.

Thank you Mr. Chairman.

Chairman NUNN. Dr. Perry, we welcome you here. We are glad to have you.

STATEMENT OF WILLIAM J. PERRY, FORMER UNDER SECRETARY OF DEFENSE FOR RESEARCH AND ENGINEERING

Dr. PERRY. Thank you very much, Senator Nunn.

For more than four decades now, our defense planning has been dominated by one overriding threat, the threat based on our perception that the Soviet Union's objective was to impose communism on the world, and that to achieve that objective, they had developed an excessive military force and, in particular, were developing the capability to make a short warning attack in Europe.

Today, that objective of the Soviet Union is no longer credible. It is not clear tha they can even impose communism on their own country, much less on the world. They are in the process of demilitarizing important aspects of their forces. Most importantly, the Warsaw Pact, which would have been the vehicle for making the

short warning attack in Europe, is now defunct as a military organization.

Therefore, it is entirely appropriate to restructure our defense forces in response to this substantial and dramatic change. The first and the most significant aspect is that the reduction of this major threat of a short warning attack in Europe relieves us of the burden of maintaining large standing military forces in Europe and, indeed, some of the reserves in the United States.

Therefore, this takes a major burden off our defense forces. This fact is well known to this committee and I do not plan to discuss that in any detail this morning.

What I would like to concentrate on instead is the remaining threats to which our defense forces need to be addressed and how the restructuring of the defense forces should accommodate dealing with those threats.

As this major dominant threat goes away, we are looking alternatively at a multiplicity of less substantial and what I would call contingent threats or potential threats. The most significant of these is the continuing problem with regional conflicts in the world. I would simply note that that problem has become more intense in the last five to 10 years because of the increase of destructiveness of military weapons now possessed by many non-superpowers that participate in these regional conflicts.

Second, there has been the re-emergence of a threat, military hostilities that could result from the re-awakening of European nationalism and ethnic conflicts, particularly in Central Europe. We have the continuing problem of terrorism and guerilla operations throughout the world.

To this I would like to add one contingent threat which it is prudent to plan for. That is the potential that at some time in the future there may be a resurgence of militarism in the Soviet Union. I believe it is only prudent to have a reserve plan to account for that potential.

Therefore, in qualitative terms, the requirements for our new defense forces can be described in two respects. First of all, the flexibility to deal with any one of a wide variety of diverse military scenarios. And, second, what I would call a reserve capability, namely the capability to reconstitute our forces if a major threat reemerges in the world, a threat from a superpower.

There are a number of capabilities our restructured forces should have to deal with this dramatically different situation. I am not going to take the time to go over these today. Let me just highlight two that I think are of special importance.

First of all, we will need the capability to make timely determination of changes in the threat. Precisely because of the uncertainty and the volatility in the world we are facing today, our intelligence capability increases in its importance. We can achieve that capability in this new world not only by a continued emphasis on maintaining the impressive capability we have today for technical intelligence collection, but also by aggressively pursuing bilateral and multilateral agreements for various types of cooperative inspection, including on-site inspection and open skies agreements.

The second capability I want to emphasize is the qualities that our defense forces and our defense planning should have to allow

us to reconstitute these forces if we ever needed to. What can we do, in this phase down, to facilitate a reconstitution if that ever needs to be done? One aspect of this which is obvious, but let me mention it for completeness, is that this suggests an increased priority on our reserve forces, including the National Guard. I think it is appropriate to rethink the role of our reserves and the sizing and structures and equipping that is appropriate for this new world that we are entering.

But the other point is not so obvious and not much considered or discussed, and that is the necessity to create a reserve technology base and industrial base, the base on which we would have to rebuild our equipment if we ever had to increase the production of military equipment again.

So, the remaining part of my talk today is going to be focused on that question: the actions that are appropriate to create a defense technology and industrial base. The main point I would like to make is that this is not achieved, in my judgment, by putting resources into a unique defense technology and industrial base.

But, quite the contrary, the main objective is to find ways of integrating the defense industrial base with the commercial or the civilian industrial and technology base. We must find ways of breaking down the barriers that presently separate the defense industrial base and technology base from our commercial base. These barriers make it, today, essentially impractical for defense contractors to use the commercial base in today's procurement. If we can remove these barriers, we can accomplish two things.

First of all, we enhance the flexibility and efficiency of the ongoing procurement of military equipment at our reduced budgets. But, second, we create a base from which we could build if we ever had to.

Today, the defense base is an enclave. We do nearly all of our defense work, both technology and production, in factories and laboratories that are consciously and deliberately separated from the rest of the commercial base.

It is an imperative that we take steps to break down those barriers if we are to improve the efficiency of our defense acquisition today, and it is absolutely imperative if we are to have a base upon which we can build.

Now, the specific actions that can be taken to accomplish that, and I will just summarize these for you briefly and then close——

Chairman NUNN. Dr. Perry, do not be too brief this morning. We usually would appreciate that. But we just have two witnesses because of the great prestige, importance, knowledge, and wisdom of these two. We are willing to spend a little more time this morning. So do not feel pressed.

Dr. PERRY. Very good. Let me, then, give you six specific recommendations of actions that can be taken in this area.

I might say these are recommendations which I have just included in a report which Dr. Ashton Carter and I authored for the Carnegie Commission, which report will be made public in a few weeks. The title of the report is "New Thinking in American Defense Technology," and it deals very much with the subject that we are talking about today.

I wanted to highlight six recommendations in that report. They all deal with the question of what can be done to maintain a technology and industrial base as the defense budget phases down.

The first of these recommendations is that we should reallocate the funding within the RDT&E budget. On the assumption that R&D funding is going to decrease, we recommend strongly that that portion of the budget which funds the technology base, namely the portion which the Defense Department calls 6.1 and 6.2, not only be maintained at a level, but actually sustain modest real increases of a few percent a year during this period. These increases would be at the expense of the rest of the R&D budget.

The reason is that that relatively small portion of the defense budget maintains our technology base. It is the base on which we would have to build if we ever had to increase our defense acquisition in the future.

The second reason is——

Chairman NUNN. Could you, for the benefit of those who may not follow this day to day, just give us a little bit of a background on what that money is used for? You are saying increase that money. What is that money used for? What is the purpose of it? Who gets it? How is it spent?

Dr. PERRY. The money, first of all, goes to three different entities. It goes to government laboratories, it goes to the research labs of defense contractors, and it goes to universities. All three of them are major recipients of that funding. It does basic research, for example, into advanced materials and advanced components, and it does applied research, investigating, for example, new ways of detecting sound under water, or in the very early days of the stealth program, the examination of how to shape airplanes and the materials to use in airplanes to reduce detectability. All of those would be part of the technology base.

Once a technology is advanced to the place where it can be applied to a specific system, then the funding advances to what is called 6.3. In 6.3 we build models and prototypes of military equipment using that technology. Then, finally, in 6.4 we do the specific, what is called, full-scale development and on to the production of the equipment.

So it is that very front end, the very early phase of the R&D which I am talking about. If you ever shut that effort down, it would take you decades to rebuild it, not years.

Chairman NUNN. Senator Wirth?

Senator WIRTH. You were suggesting the example of detection of underwater sound as connected to stealth technology?

Dr. PERRY. Yes.

Senator WIRTH. But you are talking about ways of integrating the defense with the commercial base. Now are there other examples? Or is there a lot transferability from those two examples that you used?

Dr. PERRY. Senator Wirth makes a good point which is the examples that I gave were uniquely defense. But the bulk of the 6.1 and 6.2 are what are called dual-use technologies. For example, the VHSIC program (very high speed integrated circuits) was the program designed to move the Defense Department into the modern microelectronics age. That was done in 6.1 and 6.2. The early devel-

opments in computer softwares, the early developments of advanced parallel processing for computers—all of those were done in the 6.1 and 6.2 budget.

So, the question that Senator Wirth asked leads me to my second argument for why it is important to maintain this program. And that is, it is a contributor not just to the defense technology base, but to the national technology base. Because of the dominance of dual-use technologies, in that the earlier you are in the research "food chain," so to speak, the less likely it is to be uniquely specific to a defense application.

So, for that reason, this part of the defense program, the 6.1 and 6.2, does contribute to the national technology base. It is worth noting that the Defense Department also makes withdrawals from this national technology base. It is a user of the national technology base; it has some responsibility to make deposits to it as well. This 6.1 and 6.2 program could be considered as the Defense Department's contribution, or deposits, to the national technology base. It is a relatively small increment of the R&D budget but an important increment of our national technology base.

The third reason for maintaining this emphasis on the 6.1 and the 6.2 program is that those are the programs which are least likely to be picked up by industry if the Government drops their funding, simply because they are long-term and non-specific in their nature. Therefore, they are the programs least favored by industrial companies who are primarily looking for R&D which is closer to the product than what is done in 6.1 and 6.2.

For all of those reasons, then, I argue that the 6.1 and 6.2 programs ought to be supported even as the defense budget goes down, even as the defense R&D budget goes down.

One final comment on this technology base part of the Defense Department. The 6.1 and 6.2 program today has diminished dramatically since the 1960s. By the mid-1970s, it had dropped to about one-half in real terms of the technology base program during the early 1960s. When the defense budget decline occurred after the Vietnam War, the technology base program declined at about twice the rate of the rest of the defense budget.

During the mid-to-late-1970s, during the period I was in the Pentagon, we increased that program so that it came to a level of about 60 percent of what it had been in the 1960s instead of 50 percent. During the 1980s, during the Reagan years and the early Bush years, this program has not increased at all in real terms. There have been dramatic increases in R&D spending during the 1980s, but the technology base, 6.1 and 6.2, has not participated in that increase. So, today, we stand at a technology base budget which is about 60 percent in real terms of what it was during the 1960s.

Senator WIRTH. What kind of numbers are we talking about? We are using percentages, but what——

Dr. PERRY. A few billion dollars, Senator Wirth.

Senator WIRTH. A few being two, six?

Dr. PERRY. Perhaps three.

Senator WIRTH. Three.

Dr. PERRY. I do not have the current number in my head, but approximately $3 billion.

Senator WIRTH. Is it the full area you are talking about, 6.1, 6.2, 6.3, about $3 billion?

Dr. PERRY. 6.1 and 6.2 is all I am talking about at the moment. I will get to 6.3——

Senator WIRTH. Are these the key lever areas for getting at the technology or the interfaces—6.1 and 6.2? Are there other accounts or are these the key two?

Dr. PERRY. It is the long-term base. It is the idea pool on which all of our defense applications come.

Senator WIRTH. Do you know if that is the analog the NSF cites——

Dr. PERRY. NSF is focused more on the 6.1 aspect of it. It goes somewhat beyond; it carries somewhat farther than most of the NSF programs.

Senator WIRTH. There is about $3 billion in this?

Dr. PERRY. It is about $3 billion, yes.

Senator WIRTH. What is the budget of Star Wars?

Dr. PERRY. Star Wars is, I believe, between $3 billion and $4 billion a year. Much of the Star Wars program is in the 6.3(a) account, which is the next one up the chain. Some of it, I believe, is in 6.1 and 6.2.

Senator WIRTH. Are there spill-outs? Are there spill-outs from parts of what we are doing in 6.3(a), the Star Wars program into the commercial sector? If we are trying to focus on strategy for the 1990s, it is going to have a greater relationship between the two.

Dr. PERRY. The argument for spill-overs of defense R&D to the commercial base are made very appropriately in the 6.1 and 6.2 spending. But as you get into 6.3 and 6.4, the appropriateness of that spending, the applicability of that spending to commercial becomes very less likely.

Senator WIRTH. Is there a lot of research that goes on in 6.3(a) that backs in to 6.1 and 6.2, say, the space technologies and so on that are going to be ultimately useful in the commercial sector?

Dr. PERRY. Let me get to the 6.3(a), which is the next part of the program.

The 6.3(a) takes the ideas that are developed in 6.1 and 6.2, applies them to a particular defense application and then builds a model or an experiment and tests it. It, in a sense, reduces an idea to practice, to a particular application.

Part of my recommendation here is that the 6.3(a) budget, this testing and making models, also should be sustained. Here, I recommend it be sustained at the same level in real terms that it is today. 6.3(a) is not as applicable to commercial carryover; it is now looking more strictly at defense needs. The reason for my recommendation is if you want to maintain a reserve base of technology, it is necessary to advance the ideas at least one step beyond the laboratory, to build the models and conduct the testing of the models.

When I am recommending this 6.3(a) program, I should emphasize that the objective, the rationale for this program in the Defense Department has always been that this is a necessary preliminary step to making the full-scale development and building the production equipment.

In the Packard Commission report, we stressed heavily the importance of building models and testing them as a prelude to going into production.

While that is an important point, here I am making a somewhat different point. That is, if you do not go into production, if your defense budget does not permit you to go into full-scale development and production of as much equipment as we did in the past, then it is still necessary to carry these ideas up to and including the 6.3(a) level, the testing level. The idea needs to be carried to that point to really have achieved the maturity necessary to convince yourself that you have something in your base.

Now, I want to emphasize that the notion here is not that you take the development that you have made and tie a blue ribbon around it and put it on a shelf and then, 5 years later, take that idea off and build the equipment. The idea is that you maintain a pool of capable design teams, capable engineers, and capable scientists. To maintain that pool and keep them adequately trained, they have to go this next step; they have to go to building the models and testing them.

Chairman NUNN. What do you do with that product that comes off there if you do not tie a ribbon around it? You can shift those teams to some other projects; can you not?

Dr. PERRY. To some other project. Some small percentage of them would be developed and produced. I am arguing here that we should maintain—that we should be willing to test and to build models and test ideas out even if we are not planning to develop and produce military equipment based on those ideas.

The reserve that we are maintaining is not the reserve of designs on the shelf. It is the reserve of technical talent, the design teams, the engineers teams. And, indeed, they go on to the next project.

Chairman NUNN. What happens to that package of tested ideas at that stage? It does go into a package and, indeed, sits on the shelf?

Dr. PERRY. That is right. If the need for it occurs in a year or two's time, it can probably be picked up and used. But, if the need occurs four or 5 years hence, it is probably obsolete by then. So, its benefit then, is in the training of the team that did it, not in the idea that goes on the shelf.

Senator WIRTH. Dr. Perry, you are dealing with very scarce resources of the design team and the engineering group and so on. How would they hold together? If they did not see the prototype that they had built come into reality, would they go through that exercise once and say, hey, I do not want to do that anymore, I want to go off where we are going to more likely to be producing items that I see every day. Do you see what I mean?

Dr. PERRY. Yes.

Senator WIRTH. Is there not a frustration factor?

Dr. PERRY. Some percentage of these ideas will have to go through to production. With the major decline in the defense budget, a large percentage of them will not. Therefore, you will have some frustration level with the teams in not being able to see their ideas carried through to production.

There are different kinds of personalities and psychologies out there. Some of them get their kicks out of the design phase and are quite happy to go on to the next design.

Senator WIRTH. But it is a group of people that does this sort of thing, that likes to do this sort of thing. What you are doing is trying to provide the glue to hold them together, to give them a home?

Dr. PERRY. Absolutely. And for those who must go on to the production to get their satisfaction, they will have to gravitate to those relatively fewer projects which are going on to production. And they will be fewer, though, in the future.

My point is because those production programs are going to be necessarily fewer, that we should not also make fewer this very early stage of testing programs.

Now, let me make an organizational recommendation while I am doing this. What I am recommending for the 6.1 and 6.2 budget, maintaining a modest real increase in that budget while the rest of the defense budget, and even while the rest of the R&D budget is going down, I would describe as an unnatural bureaucratic act.

The natural tendency when the budgets go down is to have every portion of it participate in the decline; everybody should take their "fair share." Therefore, one has to build some extraordinary bureaucratic organization to protect this budget. This budget will have to be fenced in some way in order for that recommendation to have any meaning.

The specific recommendation that we made in our Carnegie Commission report is that the Director of Defense Research and Engineering, the DDR&E, should be assigned the responsibility for the management and budget formulation and budget defense of the technology base program, the 6.1 and the 6.2 program.

The execution of the program will continue to be as it is today in DARPA and in the services, but there will be a single, consolidated program prepared by the DDR&E and presented to the administration and to the Congress.

I do believe that unless this technology based budget is fenced, it will not be able to sustain the increases I have described. In fact, it will not even be sustained at a level budget.

Now, the fourth recommendation in this line is that we should establish a commission to review the Government laboratories. The purpose of this commission would be to evaluate which ones are making effective contributions to the defense technology base. Those that are making the most effective could be enhanced. Those that are making a less effective contribution or were below critical mass could be closed. It would also open up the possibility that some of the laboratories might be turned over to what is called a GOCO, a government-owned contractor-operated laboratory.

My argument here is based on the observation that our Government labs, which are an important component of the defense technology base, in my judgment, are not operating at full effectiveness, many of them, in fact, below critical mass, and that they would benefit from consolidation. Because of the political sensitivities to taking these sorts of actions, which may involve closing some laboratories, I suggest that this be approached in the same way that the base-closing commission was approached, where an

independent outside commission is established that makes the evaluation, then presents a package to the administration and to the Congress which would be voted up or voted down, but not considered a lab at a time.

I think this is a critical feature if we are going to get the full benefit of these very limited funds which are spent to maintain a technology base.

Chairman NUNN. Are you including DOD and DOE labs?

Dr. PERRY. I think if we were doing this, we might just as well consider the DOE and the DOD labs in a package, yes.

Chairman NUNN. Do you have any idea of how many there are in numbers of DOD and how many there are in numbers of DOE, round figures?

Dr. PERRY. I do not have a number for that, but it is many dozens of laboratories. There is probably more than——

Dr. GANSLER. The problem is that the DOE ones are few, very large ones, as you know. There are a hundred or so of the DOD ones, when you count the closing and everything else that all the different labs—79.

Dr. PERRY. A final comment on the technology base. The technology base, besides consisting of 6.1 and 6.2 Government funding, has an important component called IR&D, independent research and development. These are programs which are conceived and executed in the laboratories of defense contractors. They are a significant and important part of our defense technology base.

The point I want to make about the IR&D is that the size of that IR&D budget is determined from contractor to contractor as a certain percentage of the contractor's defense revenues. Therefore, as these revenues decline, the IR&D program is going to decline. It is going to decline more or less proportional to the decline in the defense production budget.

I think this would result in an undesirable decrease in the defense base. I recommend that some way be found for maintaining, in absolute terms, the size of the IR&D program as the defense budget goes down.

And a related suggestion to that is that the IR&D program, which is presently co-managed with the bid and proposal effort of the contractors, be somehow isolated from that. I am concerned that as the defense budget goes down and the competitive problems increase for defense contractors that they will shift more and more of their resources to bid and proposal effort at the expense of IR&D. So I would want to find some way of separating those two so that the IR&D program is administered separately from that and maintained at its current level, rather than being allowed to decline with the defense budget.

So those are all recommendations which have to do specifically with maintaining the defense technology base. To the extent my recommendations were bearing on 6.1 and the 6.2, they also relate to allowing defense to continue to make an important contribution to the national technology base, with the commercial benefits that stem from that.

One other comment about the IR&D, it is a natural and could be a very effective vehicle for what is called defense conversion. That is, the application of defense technology to commercial products. As

the defense budget declines it is going to be more and more important for defense companies to find ways of facilitating this defense conversion. And, indeed, I believe it should be a national goal that that be done effectively and efficiently.

Presently, the IR&D program is administered in such a way to make that somewhere between difficult and impossible because the IR&D is limited to those activities which clearly have defense applications. I suggest that that limitation be reconsidered.

I think it should be a national objective to encourage that defense conversion to take place efficiently. And the IR&D can be a natural mechanism, the most effective mechanism I can think of, for allowing that to take place. It does not suggest that the government gets involved with the defense conversion. I am simply suggesting that by removing their prohibition on IR&D spending for commercial products, they will facilitate the contractors' being able to do that more effectively.

Chairman NUNN. Do you draw a line anywhere on that one? Or would the money coming from the government be able to be applied by industry, under your example or recommendation, without any relationship to defense? Would there have to be some relationship, and if so, how would you define that?

Dr. PERRY. In my recommendation the line is drawn on the total amount of money spent, but the nature of the spending would be left to the contractor. Many of them would choose to spend it for defense conversion rather than spending it for defense products.

Chairman NUNN. This is a way of easing the defense industry into the commercial sector and also a way of recognizing the overcapacity we have in defense and encouraging that shift.

Dr. PERRY. Exactly. I do not think we could do a careful cost accounting on the benefits of that recommendation, but it is my belief that there would be a net benefit to the Nation through its taxes if this were done effectively. That is, I do not see this as a give-away program to contractors; I see it as a way of facilitating the efficient transfer of those valuable resources from one sector to another sector.

Chairman NUNN. Do small contractors get that money also? Or is it based on a certain threshold?

Dr. PERRY. Any size contractor can have an IR&D program. The administration of the program changes as you go from a small contractor to a large contractor.

Basically, on IR&D the Government authorizes a defense contractor to put a certain amount of his R&D expenditures on allowable overhead. So it is a part of his overhead and as such, there is an incentive on the contractor to maintain it at a relatively low level even if it were not overseen by the Government because if he gets his overhead too high, he decreases his ability to compete.

Next, I will go directly to the question of transferring technology from defense to commercial, still pursuing the theme of defense conversion. My fifth recommendation is to broaden the charter of DARPA so that they have the responsibility to stimulate the transfer of selected defense technologies to commercial applications.

I want to go back to that and be careful about what I am recommending and what I am not recommending. I am not recommending that DARPA become the vehicle for enhancing the commercial

competitiveness of the United States. I think that is an objective much too broad for DARPA, or for that matter much too broad for the Defense Department, and I do not think they could achieve that objective even if given to them.

What I am suggesting, relative to those programs at DARPA that were selected because they are critical to defense, but happen to be dual use, is that DARPA take some responsibility to initiate action to get those transferred into the commercial area.

Chairman NUNN. Are you saying they do not do that now?

Dr. PERRY. To the extent that they are doing it, there is a real question as to whether their charter permits them to do that or not.

This could be facilitated by having the Commerce Department provide some specific funding for that part of the activity which could be identified as transfer activity. It could be even more facilitated if there were an agency in the Commerce Department that were an appropriate recipient of these ideas and could then serve as the agency which goes from the Commerce Department to selected contractors.

But while what is being done in defense today is only in a small degree applicable to commercial, for those programs that are applicable I think we have some national responsibility to see that they get applied to commercial activities, rather than either ignoring them or actually setting up barriers to prevent that transfer.

Senator Wirth?

Senator WIRTH. Structurally, are you suggesting that we ought to be looking at some kind of a civilian DARPA as an organization, as a way of making this merger from defense to civilian? Do organizations have rights, or is there a process that ought to be set up by, I hate to say it, but some kind of a commercial impact statement or something that you force people through, you force the research through, you force the organization through some kind of process that identifies what the commercial impact might be?

Dr. PERRY. I think there are two different situations, depending on whether there is a commercial DARPA. If there is a commercial DARPA, then defense DARPA's role would simply be one of facilitating the transfer to that commercial organization.

Since there is not one today my recommendation is made envisioning that there is not a commercial version of DARPA today, in which case, what I would envision DARPA would do would be, for example, to hold a seminar and invite contractors in and present the results of the research that is going on. Just take actions to diffuse this technology.

I do not envision them taking actions in which they are actually funding the development of commercial products. That is going far beyond what I am envisioning here. The actions that I envision are simply being proactive to get the best dual-technology ideas disseminated and diffused into the commercial world. It is not a big activity, but it could be a very high leverage and useful activity, I think.

What is needed here primarily is a mandate to DARPA to do that. It would be a small percentage of their activity, but it could be very useful and very high leverage.

I might say that even without this mandate they have been a leader in several important technologies being diffused into the commercial area: parallel processing in computers, packet switching telecommunication networks, advanced software systems. In several of those fields that I have described to you the commercial state of the art in the United States is where it is today because of efforts sponsored by DARPA.

But I want to conclude this recommendation with one more caveat. I am not envisioning DARPA having the responsibility for developing commercial products. That is beyond, substantially beyond, anything in this recommendation.

Now, my sixth and last recommendation is the inverse of what I have described to you. That is, now I want to focus on the question of how to get commercial technology and transfer it into defense.

The reason for that is illustrated by the semiconductor field today, where defense, which originally was the leader and a major innovator in the semiconductor field, now consumes about 6 or 7 percent of the semiconductors of the United States. So they are a relatively small player in semiconductors. They no longer drive the semiconductor market; they no longer drive the computer market.

Therefore, for defense technology to be at the cutting edge, it has to find some way of accepting and using the latest commercial technology in those fields.

Because we have constructed our defense organization back in the days when defense was the leader in those areas and was the dominant player, we have constructed it in such a way that this transfer from commercial to defense does not happen well, and in many cases, does not happen at all.

In particular we have consciously and deliberately erected barriers to keep technology from transferring from the commercial field to the defense field. We pay a heavy price for that today in our current acquisition of military equipment.

But the main point I am making in the context of the discussion today, is that because we are doing that, because we have isolated our defense technology from commercial technology, if we ever had to rebuild our defense capability, we would be building it from a very small and narrow base if we were limited to defense technology, whereas, if we could build it from our commercial technology base and our commercial industrial base, we would be building from a large, robust, vigorous base.

My main point is that we must find ways of breaking down those barriers so that defense can use the commercial industrial base and the commercial technology base so that there is a national technology base, not a defense technology base or a commercial technology base as separate entities.

Now, let me describe the kind of barriers we have. The first and probably the most insidious is the barrier created by military specifications. As long as defense contractors and defense laboratories are required to use military specifications, then they will have to go to a very select set of contractors providing a select set of equipment and a select set of components which will not, in general, get the full benefit of the commercial technology and the commercial industrial base.

Let me illustrate this as follows: if two different groups decided to determine the specifications on a semiconductor chip and they did it independently of each other, it would not be surprising, even though they were intended to meet the same functional qualifications, that the two groups ended up specifying somewhat different numbers. The lower temperature range, might be five degrees different; the upper temperature range might be 10 degrees different. Indeed, that is exactly what happens. Our industrial specifications for semiconductors are somewhat different from the military specification equipments, even when they are designed to meet more or less the same requirements.

Therefore, it is necessary to normalize those requirements if we are ever going to take advantage of the commercial base. The specific recommendation is that the NIST, the National Institute for Standards and Technology (the former Bureau of Standards), in conjunction with the Defense Department, prepare a set of joint military/industrial specifications which will be used by the military, rather than their unique military specifications.

The only exceptions allowed would be in the unusual applications which the military faces in space and in equipment subject to nuclear radiation, which comprises about 15 or 20 percent of defense applications. But the other 80 or 85 percent would be built to these joint military, industrial specifications.

The advantages are immediate in that the ongoing procurement could then buy from the large production lines in the commercial field rather than the very small and specialized production lines which the Defense Department uses.

In semiconductors alone, where I have looked at this problem in detail, the cost differential is about 10 to 1. We are not talking about a 10 percent or 20 percent difference, it is a ten-to-one difference, the cost for buying a Mil. Spec. semiconductor and a commercial semiconductor, which functionally does the same thing. So there will be an immediate cost savings if we can do this.

Over the long term, though, this means that if we ever want to expand our military buying again, the base from which we are expanding now becomes our entire commercial base, not this very narrow defense base.

Chairman NUNN. How do we accomplish that legislatively, Dr. Perry? How much technology can that apply to? Somebody has to make a judgment about which it applies to and which it does not, correct?

Dr. PERRY. We have a pilot program going on now, Senator Nunn, in the Defense Department, in semiconductors, which is bringing together the Bureau of Standards, the Defense Department specification teams and industry. The industry in this case is not just the defense industry; we are bringing in the automobile industry and the semiconductor industry as well. We are trying to arrive, by consensus, at a set of specifications which will be applicable to all of these cases.

I would say the first thing to do is observe that pilot program. If it is successful, which I think it will be, it can be a base on which to build. One can generalize from that to many other applications.

I have looked, in some detail, at semiconductors, at software, and computers and am persuaded that there are very large benefits to

be gained there. I believe, but have not done the same extensive investigation, that this could be applied very broadly across the field, not simply limited to these technical devices I have described to you.

It may well be that there is a role for legislative action here as well. I would first examine what is going on, what changes are now under way in the Defense Department in this area and see if they are moving in the right direction.

The second area, and this is an area where legislative action probably is required, is that even if you have the military specifications changed so that we have joint specifications, it is still very difficult for the Defense Department to buy from a purely commercial supplier. This is because of procurement regulations, accounting standards, and requirements for data rights. When the Defense Department buys, it has a set of rules different from any other buyer. Therefore, most sellers are not equipped to comply with those rules. Some of them are unwilling to meet them; some of them are unable to meet them.

As a consequence, the Defense Department ends up buying from defense contractors, people who have set up the special accounting procedures, people who are willing to share rights and who have prepared the data right packages demanded by the Defense Department.

Most of those requirements are regulatory in nature; some of them are statutory. So it may, in this case, be required to re-examine the laws surrounding acquisition, particularly some of the laws which have been imposed in the last few years, laws which were instituted for the purpose of increasing the competitive nature of defense buying. They had the good intention of increasing competition, but unfortunately, had the effect of narrowing the base of suppliers from which the Defense Department could buy.

Well, Senator Nunn, that summarizes the set of recommendations that I wanted to make to you. As I indicated, these recommendations have been incorporated into a report which Dr. Carter and I prepared for the Carnegie Commission. This report will be available in a few weeks. I will be happy to share advance copies of that report with this committee if you would like.

Chairman NUNN. Thank you very much. That would be helpful.

Dr. Gansler?

STATEMENT OF JACQUES S. GANSLER, SENIOR VICE PRESIDENT, TASC

Dr. GANSLER. Senator, I prepared some remarks and, if I could have them read into the record, I would like to summarize them. I would also like to comment that you will see a great deal of similarity between what I am about to describe and what Bill Perry just went through. That was not pre-planned, but on the other hand, I really do think his ideas are excellent.

Chairman NUNN. Without objection, your entire statement will be put in the record.

Dr. GANSLER. Thank you. I will not repeat the "military needs" side that Bill just went through because I think he described that very well.

Let me rather try to address the problem of meeting those future national security issues with fewer dollars, and try to simply focus in on the management problems that I believe exist.

These are basically in three areas. First, there is a growing perception that we have not been selecting or specifying the most cost-effective weapons to meet the most likely future military needs. The changing technological opportunities and the changing world geo-political environment will require a far greater shift in terms of the selection of which weapons we buy. That is the first issue.

The second problem that I want to talk about is the fact that we have been simply paying too much for our weapons systems and it has taken far too long to develop and produce them. The trends are clear, and the recent moves to stretch out weapons systems programs will simply aggravate that and make it worse.

Finally, the third of the major problems rest with the supply side of the so-called military-industrial complex, namely the growing inefficiencies and lack of responsiveness within the U.S. defense industrial base—particularly as we start to build-down.

This problem is compounded by an increasing off-shore dependence; a dependence that has been building up for advanced products and process technologies that are critical to U.S. weapon systems and also to the production of those systems.

Now, before highlighting some of the suggestions that I would make in each of these three areas, let me make the obvious comment that there are no quick and easy solutions to these problems. The institution that has created and built up the structure that exists today has taken more than four decades and will offer, obviously, enormous resistance to the changes that are needed.

There are many people who are suggesting that in the first year we will have, quote, "significant multi-billion savings as a result of management changes." I think, in general, what one finds is that in order to save large dollars, that very often there has to be an investment made up front—of a small number of dollars, in order to actually make these big savings.

Now, if I go to the specific changes, I want to address them in three broad categories: first, in terms of improved planning and budgeting; second, in terms of improved weapons systems acquisition; and third, in terms of restructuring the U.S. defense industrial base. Let me deal with each of these.

First, and I believe most critical, is the need for the Congress and the administration to integrate the weapons requirements process with the budget process. Both of these processes have to be significantly improved, but I would argue that the most significant thing is the integration of the two.

Now, I think the most important step that the Congress can take in this area, in order to dramatically improve the planning and budgeting system, particularly in a period of build-down, is to shift to a multi-year defense budget process. I realize that is difficult. On the other hand, we are the only nation in the world that operates its defense fiscal planning on essentially a 1-year commitment basis. And, in many years, as you know, we do not even do it for a whole year.

I personally do not favor a biennial budget approach. I prefer a 3-year rolling budget in which the Congress votes annually on the

fourth year of this rolling fiscal plan. I have described such a proposal in detail in my prepared remarks. I think we have to move to some form of a multi-year process in order to gain the efficiency and effectiveness associated with the planning and the stability that comes with such a process.

The surprising thing is that most members of Congress tend to concur with this need. Yet, to date, they have not been willing to step up and take the initiative in implementing such a change.

Now, if we had such a longer-range plan, then we have to shift within those dollars——

Chairman NUNN. Dr. Gansler, let me ask you this. I would generally agree that we have to go to longer term. Here is a very difficult question here for you. When the President's budget does not meet Gramm-Rudman targets, which are established by law, in the second year, third year, or fourth year, and no one has any idea how they are going to get there. When the overall budget has to be considered with the defense budget, how do we do this in defense in this set of fiscal circumstances?

I think there are a lot of people who want to do it. But I do not know of anyone who has been able to figure out how we do this without dealing with the larger fiscal picture first so that the defense budget then is capable of being planned within the overall context.

Dr. GANSLER. We have a 3-year budget process. In 1974, we instituted the budget process to try to match the cash flow within the government and to try to address the overall integrated long-term fiscal planning of the Federal Government.

The needed change is not a dramatic one. It is simply using the budget process. It is making the "out years" of the 3-year budget process essentially levels that you will stick to. By you, I mean both branches, the Congress and the executive branch. This is the way the Europeans do it. Annually, they debate the 6th year, very vigorously, of their 5-year fiscal plan. Everyone gets a chance to vote for their district and every other consideration that is introduced.

But it is a long-term consideration that everyone accepts, essentially on principle. That, subject to dramatic changes in the world, we will try to live within those top lines for each of the agencies.

Chairman NUNN. But my point is, we are right in the middle now of making dramatic revisions on the year we are now talking about. The President's economic assumptions are completely out of whack. And they are acknowledging that at the White House, and I think that that is to their credit, in this year. Nobody has even thought about next year.

I mean, those are so far out of whack it is not likely that anyone could say, "Let us deal with defense for the second year." We are probably going to be in August or maybe September before we have any idea, as a committee dealing with defense, what number is going to be imposed on us for this year.

Dr. GANSLER. Well, that is really the point I am trying to make. That if we look back at the last five years, we see an administration's submission, in the case of defense, that assumes a dramatic increase, and we see a reality that is sloping downward. And so there is no credibility to the whole planning process.

Chairman NUNN. I agree.

Dr. GANSLER. And the rationale for any linkage between requirements and resources disappears in that kind of an environment. You cannot have a coherent use of national resources when you take weapon systems that take maybe 5 to 15 years to develop and you have a 1-year process. Basically, the overall plan has built into it very small variations from year to year, in terms of most of defense and other areas. And therefore you could, if you decided to, I believe, change the mindset to be a longer-term one, with still an annual review—and, by the way, still annual budgets, and still within the constitutional constraints of the 2 years, and so forth.

Chairman NUNN. Well, I will be looking forward to reading your entire proposal, but I still do not see how we can isolate defense and deal with it without dealing with the overall budget.

Dr. GANSLER. It may well be that you have to take the whole issue at one time, but I think, largely, defense is the major variable in that. And the rest have much more built into them for the out years.

Chairman NUNN. We are going to take about a 10-minute break. We have a vote up here and about 4 minutes to finish it, but we will come back and finish your testimony then.

[Recess.]

Chairman NUNN. Dr. Gansler, we apologize for the interruption, but that is the way this place works around here. We have another vote at 11 a.m., which gives us 30 minutes, and I hope we can finish your testimony and also ask questions, so we do not have to then hold both of you up another 30 or 40 minutes, because we may be over there voting for a couple of votes.

So why do we not go ahead and finish your testimony, then we will get to questions.

Dr. GANSLER. Surely.

Well, now that we have solved the budget problem, we move on to what we do with those dollars. And I would argue that there is a need for a dramatic shift in the distribution of our weapons acquisition dollars as well.

My personal view is that there are four areas that should receive increased, either relative or absolute, emphasis as we reduce the overall DOD budget expenditures. These specifically are, first, increase the attention to the intelligence activities; in order to eliminate either technological or military surprises in periods of reduced tension.

Second, greatly increase the resources devoted to the technology base, exactly the point that Bill Perry made so well.

I think it is important to recognize here when we talk about the technology base, that what we are talking about are the advanced electronics, the software, the advanced manufacturing technologies, the new structural materials, the advanced computers, the advanced telecommunications—these are the basic technology base, the infrastructure, if you will, of the future military systems.

But is also important, and this is the point that Senator Wirth made earlier, that these products and their process technologies, the manufacturing technologies as well, are critical for future U.S. international industrial competitiveness. And I will return to that point in a minute.

The third major area of emphasis, in terms of the resources that we have, is for far greater emphasis on those weapons which will make a qualitative difference in likely future conflicts. And here I would argue these are particularly the ones for which we have not been devoting our resources, namely, those associated with regional conflicts, Third World terrorism, drugs, things of that sort.

And then finally, the fourth area that I think needs to receive considerably more focus and resources are those efforts, technological efforts, that are geared towards reducing the production costs and the logistic support requirements of both our present and future weapon systems.

The very large dollars clearly go into the production and logistics area. But we need to spend more of the research and development dollars improving the technologies and the management techniques, so that in the future we will be able to dramatically reduce the production cost and logistic support requirements for these weapon systems.

Now, having talked about what we should do in terms of getting the right equipment and allocating the resources more efficiently and effectively, that is only the first but essential step. Good planning without good execution is obviously not sufficient.

Dramatic changes are required in the way in which we acquire the weapon systems as well. And this is the second of the major areas requiring future change. Here, perhaps most critical of these needed changes is that of increased professionalism of the civilian and military acquisition personnel. Important steps in this direction have recently been initiated. They should be pursued with great vigor and supported strongly.

Additionally, I would emphasize the importance of prototyping of new technologies in order to prove them out prior to deployment in new weapon systems. And Bill discussed this as well.

I would emphasize that the purpose of the prototyping, as was pointed out by the Packard Commission is not exclusively to show that the technology can be demonstrated. It is also to show that these weapon systems, if deployed, would be useful and would be affordable. So in a sense, it is an increase in the value of the prototype. And which of those, when then put into full-scale development and/or production, can make a dramatic improvement.

In the past perhaps, we might have been able to afford simply the marginal increases, but here I would think qualitative change in the future of weaponry is the direction that we want to move, in terms of which ones we put into the field.

Now, if we use this proven technology, having gone through the prototype phase, then you can rapidly develop and produce those systems you choose to deploy. I would like to see this in at least half of the time that it now takes us to fully develop and deploy the weapon systems. And that is possible with the proven technology. In fact, then you could modify these with new block changes in the future. The result of that would be far faster and much less costly weapon systems with more advanced technology in the field.

Now in my prepared remarks, I have described other acquisition process changes. All of these move in the direction of trying to make the Department of Defense a world-class buyer, one which rewards good performance by contractors, one that allows increased

management judgment in trading off cost, performance, and schedule, and one which develops a close, but still businesslike, working relationship between the buyer and seller, towards their common objective of higher quality and lower cost goods and services.

Today, I think it is fair to say that the Department of Defense is simply not a world-class buyer, and there will have to be significant changes made to achieve this objective. Some of these obviously are going to have adverse political consequences. But the cost of satisfying the objectives of efficiency and effectiveness, as contrasted to some of the other objectives, it seems to me can save us billions and billions of dollars if we move in the direction of efficiency and effectiveness.

Thus, what has happened, is that defense procurement practices have become grossly inefficient and ineffective, and it is time to reverse that trend.

This brings us to the third, and the last, of the major cultural changes that have to take place in the way defense business is done, namely, a dramatic re-structuring of the U.S. defense industry.

Senator Bingaman recently stated, and I quote, "Signs of deterioration of the defense industrial base are all around us." In my prepared remarks, I have listed a number of these signs.

The fact that these problems appear to have worsened, not improved during the past decade of high defense spending levels poses a real paradox for those who argue that increased defense spending can cure the structural problems of the defense industry. Or those that argue that the market will provide solutions.

As future spending declines, it seems to me, we can be sure that these problems will only grow worse, unless actions are taken to address these industrial base problems.

To do so, it is critical that the Government recognize its responsibility in the area of the U.S. defense industry. It is the only buyer of defense goods, and therefore one who is in total command of the market.

Perhaps of greatest concern to me in terms of recent defense industry trends, is the rapid loss of U.S. leadership in critical defense technologies. And I emphasize here both product technologies and manufacturing or process technologies. Much of this has already taken place, and some more—considerably more—is projected over the coming years.

The high cost, high risk and long time period that is involved in reversing this declining international technological leadership makes it essential that it be addressed through a joint public and private sector effort.

Defense Secretary Cheney wrote recently in the 1989 edition of the Soviet Military Power, and I quote, "The United States cannot persist in its current laissez faire approach to the competition and advance technologies, without incurring major economic and security problems of its own in the future."

To address this issue, the United States, it seems to me, has no choice but to develop and implement a defense technology strategy. Simply providing a list of critical technologies is not sufficient.

In order to implement such a strategy, it is necessary to have a vision of where one would like the U.S. defense industry to be at

the beginning of the 21st century, and then to take actions over the coming decade to achieve that position.

I believe that the proper vision one should have for the U.S. defense industry, is no longer to have a unique sector, but to have an indistinguishable overall industrial base—a base that would produce goods for both civil and military needs, and would do this whenever it is practical, in common, integrated factories.

As Bill pointed out, ruggedized commercial equipment in areas such as electronics today is often not only lower in cost, but also higher in quality and more advanced, in many cases by 2 or 3 years, in performance—for the same environments—than the equivalent military equipment.

However, today, the unique military buying practices, cost accounting standards, regulations, and specifications all retard, or even prohibit, such military/civil integration. And I would point out, as Bill was discussing the specification constraints, that these are interwoven with the procurement practices, and the cost accounting standards, and the other areas, so that there is an interweaving here that makes it extremely difficult to address them one at a time. You have to take an across-the-board approach—having a vision of where you are trying to go, and to eliminate the defense uniqueness that has taken place. It is simply no longer affordable, and today's technology does not require it.

Again, responsibility for achieving this shift towards an integrated civil-military industrial base, one that is competitive on a worldwide basis and yet can be domestically located, so that it can use a highly-skilled U.S. labor force and advanced manufacturing equipment and techniques, seems to me to be a dual responsibility of both the executive and legislative branches.

To date, we have been hearing many speeches about the desirability of a shift in this direction, speeches from representatives of the Congress and the executive branch. But the actual laws, regulations, specifications, and practices have frequently forced industry to move in the opposite direction. In fact, we see this daily—firms separating their civil and military operations, in their interest, and properly so, because of the way that the Government has structured the marketplace.

It is time for the DOD leadership, and I believe here the leadership should come from the Department of Defense, to move out with an explicit delineation of a defense technology strategy; and for the Congress and the administration to take the necessary steps to achieve effective and rapid implementation of such a strategy in the areas that need change—the ones that I discussed in terms of requirements, the ones that I discussed in terms of the procurement process, as in this area of the defense industrial base.

I am afraid that if we do not make the changes now, that the deterioration that we have seen in recent years will continue—to the Nation's both economic and security detriment.

In summary, therefore, the time for action in this area is now. I believe these hearings can be an important step in moving the Nation forward toward the needed changes in these three, interrelated areas of national security planning and budgeting, weapons acquisition, and defense industry restructuring. I think the American taxpayers deserve it.

Thank you.
[The prepared statement of Dr. Gansler follows:]

Managing The Defense Build Down

Jacques S. Gansler*

The dramatic changes in Eastern Europe and the Soviet Union allow the nation to redirect some of its resources from national security to the many other needs of the nation -- from education through the transportation infrastructure, and to improved U.S. industrial competitiveness. However, the nation will still be faced with significant national security issues in the years ahead. The Soviet Union remains a world-class military power and their enormous economic and social problems mean great uncertainty for the coming years. The same is true in Eastern Europe, and certainly the growing presence of extremely sophisticated weapons in the hands of Third World countries -- and international terrorists -- represent conditions of increasing danger and uncertainty around the world; as does the growing financial and military power of the "drug lords" (with an annual "budget" that now approaches that of the U.S. Department of Defense). Finally, there is the growing concern about America's "economic security" and the implications that our declining financial and industrial competitiveness may have to the nation's long-term security. (The annual payments on the national debt -- at $180B -- now exceed our annual acquisition budget for national defense.) Thus -- while faced with a declining defense budget -- the nation still has significant military requirements. Therefore, the only solution is to "change the way that defense business is done" and begin to get more for our money.

To solve this challenge, we must address three major problems in the defense management area. First, there is wide-spread perception that we have not been selecting or specifying the most cost-effective weapon systems to meet our future military needs. The changing technological opportunities and the changing world geo-political environment require a far greater shift in the selection of which weapons we buy for the future. Second, we have been paying far too much for individual weapon systems and taking far too long to develop and produce them. The trends here are clear; and yet, with each generation of new systems, we spend more and take longer (and current proposals, that continue to stretch

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out weapon systems, will only exacerbate this trend). Finally, the third of our major problems rests within the supply side of the so-called "military industrial complex"; namely, the growing inefficiency and lack of responsiveness from the U.S. defense industrial base. This problem is compounded by an increasing off-shore dependence for the advanced product and process technologies that are critical to U.S. weapon systems, and to the production of these systems. Thus, if we are to effectively manage the defense build down -- to get increasing military capability for reduced dollars -- we must simultaneously address all three of these critical problem areas; and reverse their historical trends (trends which have, in fact, worsened over the last decade -- even with the increased level of defense dollars).

Before highlighting some of the specific changes required in each of these three areas, let me first emphasize that <u>there are no quick or easy solutions to these problems</u>. The institution that has to be changed has built up over more than four decades, and there will be enormous resistance to such changes. Additionally, in most cases, the initial steps that are required for significant improvements will actually <u>increase</u> the first-year's cost (since it often costs a small amount of money to make a big savings in the future). Thus, those who arbitrarily say that we will "save billions of dollars this year through management changes" are not only unrealistic, but they are undoubtedly putting off the difficult decisions which have to be made. Really significant savings are only going to be possible if one truly faces up to the enormity of the problems -- and not only faces them head on initially, but continues to do so over a number of years.

Essentially, the needed changes fit into the three broad categories of "improved planning and budgeting", "improved weapon system acquisition", and "restructuring the U.S. defense industrial base". Let me deal with each of these three in order.

The first, and perhaps the most critical action required -- by both the Congress and the Administration -- is the need to integrate the weapons requirements process with the budget process; and to revise both of these so that they can be far more effective. Broadly what is required is to be able to trade off performance requirements of individual weapon systems against the numbers of each that are bought, and against the individual production costs of these weapons. This means having long-range, <u>realistic</u>, fiscal plans -- within which the Services can make

quantity versus quality trade offs in a fiscally-constrained environment. With such long-range budgetary planning, one must then require efficient quantity procurements of each of the selected weapons. It is far more efficient and effective to buy a few different types of weapon systems each year at efficient rates and then to buy the next-generation of alternate systems in subsequent years, than it is to try to buy all of them at once at very low and stretched-out production rates. However, the only way that people will believe that such plans can be realized is when both the Congress and the Executive Branch are willing to make long-range fiscal commitments. Thus, perhaps the most important step in improving our planning and budgeting system is for the U.S. Congress to shift to a multi-year defense budget process. We are the only nation in the world that does its defense fiscal planning on essentially a one-year commitment basis (and often, it is not even a full year due to continuing resolutions). I personally do not favor the biannual budgeting approach; rather, I prefer a "three year rolling budget", in which the Congress votes annually on the fourth year of this rolling fiscal plan. (I've described such a proposal in the brief article contained in the attachment.) A move to such a multi-year process would make an enormous improvement in the effectiveness and efficiency (which comes primarily from increased stability) in the use of our defense resources. Most members of Congress concur with this need; but, to date, they have not been willing to take the initiative in implementing steps towards a change.

Finally, to complete the resource allocation discussion, it is necessary to make significant shifts in the distribution of our future defense weapons acquisition dollars. My personal view is that there are four areas that must receive increased relative emphasis as we reduce overall expenditures. These are:

1. Increased attention to intelligence activities, not only to verify the arms control agreements being reached but also in order to expand our coverage of world-wide military and economic conditions and to eliminate technological and military surprises in periods of reduced tensions.

2. Greatly increased attention to the technological base. Here, it is critically important that we increase our emphasis on the "infrastructure" in the technology area. This means showing far more concern for the "lower tiers" of the defense industrial base. Areas such as advanced electronics, software, advanced manufacturing technologies, new structural materials, advanced

computers, and advanced telecommunications are critical for future military systems. Importantly, these product and process technologies are also critical for future U.S. international industrial competitiveness (a point which I will return to later).

3. Far greater emphasis on those weapons which will make a qualitative difference in likely future conflicts -- especially those associated with Third World operations, terrorism, and drugs. Most likely, this will also mean increased attention to manufacturing technologies, since we will require not only high-accuracy systems, but also light-weight, low-cost, and high-quality systems.

4. Finally, there needs to be a great deal of added focus on those programs which are geared towards reducing the production cost and the logistics support requirements of present and future weapon systems. This means support for activities that are focused on "paperless" factories and logistics operations (such as the Computer-aided Acquisition and Logistics System); it means financial support for future manufacturing technology efforts; and it means support for modern logistics and factory information systems that provide data on both cost and quality, simultaneously. Since most of the defense acquisition dollars go into the production and support of our weapon systems (not into their development), it is clear that we have to redistribute our R&D resources to focus far more on ways to emphasize the production and support phases.

Asking for the right equipment and allocating resources efficiently and effectively is clearly the first and most essential step. However, good planning without good execution is not going to be sufficient; so dramatic changes in the way in which we acquire weapon systems must also be made -- and this is the second of the major areas requiring future changes. Here, perhaps the most critical of the needed changes is that of increasing professionalism of the civilian and military acquisition personnel. Important steps in this direction have recently been initiated and they should be pursued with great vigor. Without top people -- with extensive acquisition experience -- throughout all levels of the acquisition community, no matter how good the practices and procedures are, the system is bound to fail. Additionally, I would emphasize the importance of prototyping of new technologies in order to prove them out prior to deployment in new weapon systems (whether this be at the system

or subsystem level). Then, utilizing proven technology, new systems can be rapidly developed and produced (in less than half of the time currently taken); and, implementing long-range fiscal plans, one can then continue to deploy new and improved versions of these systems -- with frequent block changes. The net result will be more systems in the field, faster and cheaper, and with more advanced technology (because of the short product realization cycle).

The third of the major acquisition changes is that of recognizing that advanced technology can be used not only for improving weapon system performance, but also for reducing its cost and improving its quality. The Department of Defense must recognize the importance of integrating design and production engineering ("simultaneous engineering") and the importance of early investment in production technology and production design (during the preliminary design of the weapon systems) if the DoD is ever to realize the desired objectives of high performance with low cost, high quality weapon systems. (It is important to note that with "flexible manufacturing technology" this efficiency can still be achieved on future, small-quantity military procurements.)

Next, it is essential that the Department of Defense shift from its current overemphasis on regulations and specifications to the use of market forces for achieving higher quality and lower cost. This means emphasizing "competition for quality" -- recognizing that higher quality in the long run results in far lower costs, if it is properly implemented. The emphasis, over the past decade, on competing to get the cheapest equipment (or services) must change. In fact, the whole concept of "technically acceptable, low-bid wins" is totally inconsistent with the concepts of "total quality management" and "continuous process improvements". Similarly, we must learn to reward good performance and penalize poor performance. If a company raises quality and reduces costs, they should be rewarded with more business. Market incentives are clearly a far preferable way to achieve the government's objectives than increased regulation.

Once the quality of the acquisition people has been improved significantly and market forces are utilized to focus industry's attention on higher quality and lower cost, then the Department of Defense acquisition organizations and procedures can be dramatically "streamlined". (However, doing this in the reverse order could be extremely dangerous; since, for example, increased

delegation of authority to people without experience could be a very high risk option.) A similar "streamlining" is also required on the industrial side, in order to significantly reduce the cost of weapon systems. Here, the majority of the costs are not in "direct" manufacturing labor, but are actually in "overhead" functions. Thus, to address this question, it is going to be necessary to change the DoD counting systems. Rather than simply viewing overhead as a percent "burden" on direct labor (an increasingly higher percent as industry moves towards automation), it is necessary to identify all of these overhead costs with specific activities (a process known as "activities based costing") and to monitor the cost, quality, and time of the individual activities on a continuous basis (in order to achieve continuous process improvements -- through statistical process control techniques). Industry should welcome this more rational accounting system approach, since it will make them far more competitive in the long run.

Finally, an additional major change which the Congress and the Executive Branch must make is to redirect the government procurement system to one that emphasizes efficient and effective use of public funds, rather than the current emphasis on assuring that there is absolutely no "waste, fraud, and abuse" in the use of these funds. It is obviously impossible to prevent all criminal behavior through legislative action -- that's why jails exist. Clearly, illegal action must be both deterred and severely punished. However, the increasing amount of legislation and auditing in this area, over the past decade, has done incredible damage to efficient and effective defense procurement practices. In order to make a dramatic difference in the use of the billions of dollars of defense procurements, we must make the Department of Defense into a "world-class buyer" -- one which rewards good performance by contractors, allows increased management judgement in trading off cost performance and schedule, and develops a close -- but businesslike -- working relationship between buyer and seller, toward the common objective of higher quality and lower cost goods and services. Today, the Department of Defense is simply not a world-class buyer; and there will have to be significant changes made to achieve this objective. Some of these obviously will have adverse political consequences; but the cost of satisfying objectives other than efficiency and effectiveness in the use of the billions of defense dollars has caused the defense procurement system to become grossly inefficient and ineffective, and it is time to reverse that trend.

This brings us to the third, and last, of the major "cultural changes" that must take place in the way defense business is done. Namely, a dramatic restructuring of the U.S. defense industry. Senator Bingaman (D-NM) recently stated that "signs of deterioration of the defense industrial base are all around us". These include:

- Rapidly rising military equipment costs
- Inadequate quality of products produced
- Lack of surge capability (for increased production)
- Increasing lead times (for new products)
- Excess capacity at the prime contractor level
- Heavy debt structure
- Lack of parts suppliers
- Lack of cost-reducing capital investments
- Growing dependence on offshore purchases of parts
- Growing dependence on foreign sales of equipment
- Increasing foreign ownership of domestic plants
- Difficulty of getting a skilled work force
- Difficulty of getting U.S. graduate engineers
- Almost total separation of most firms' military and civil operations (with resultant inefficiency in defense)

The fact that many of these problems appear to have worsened -- not improved -- during the past decade of high defense spending levels poses a real paradox for those who argue that increased spending can cure the structural problems of the defense industry -- or that "the market" will provide solutions; and as future spending declines, we can be sure that these problems will grow even worse, unless we take actions now to address them. To do so, it is critical that the government recognize: (1) its responsibility in this area (as the only buyer of defense goods, and, therefore, one who is totally in control of the market) and (2) the fact that defense expenditures are extremely important to the U.S. economy and, thus, if improperly utilized can have adverse effects not only on defense, but on national competitiveness (approximately 30% of all scientists and engineers and approximately 15% of all manufacturing workers are supported by defense expenditures, and approximately 20% of all capital equipment purchases come from defense dollars).

Perhaps of greatest concern -- in terms of recent defense industry trends -- is the rapid loss of U.S. leadership in critical defense technologies -- both product (weapon) and process (manufacturing) technologies -- that has either already taken place or is projected over the coming years. The high cost, high risk, and long time period that will be involved in reversing this declining technological leadership trend make it essential that it be addressed through a "joint public/private sector effort". As

Defense Secretary Cheney wrote in the 1989 edition of "Soviet Military Power" (page 133), "the United States cannot persist in its current laissez-faire approach to the competition in advanced technologies without incurring major economic and security problems of its own in the future". To address this issue, the United States has no choice but to develop and implement a "defense technology strategy". Simply making a list of "critical technologies" is not sufficient.

In order to implement such a strategy, it is necessary to have a "vision" of where one would like the U.S. defense industry to be at the beginning of the 21st century and then to take actions, over the coming decade, to achieve this position. If one defines the "desired" characteristics of the future defense industrial base, they would be five fold. (1) domestically-based (for critical technologies), (2) state-of-the-art (for technological superiority), (3) capable of rapid, new product realization, (4) high quality and low cost, and (5) capable of rapid production surge (for unpredictable future crisis needs).

In order to achieve these future characteristics there are essentially two options: either maintain a segregated, subsidized, defense-only sector; or cultivate the integration of the military and civilian sectors, wherever this is possible. Given the low cost and high quality objectives for defense systems, I believe that the price tag for the first option makes it unaffordable. Thus, we are driven to a "vision" of the desired future defense industry as being one in which the U.S. defense industry is no longer a "unique" sector, but a significant -- yet indistinguishable -- part of an overall U.S. industrial base; a base that would produce goods for both civil and military needs; and would do this (whenever practical) in common (integrated) factories. Ruggedized, commercial equipment (in areas such as electronics) today is often lower in cost, higher in quality, and more advanced in performance -- for the same environments -- than equivalent military equipment. Additionally, modern, automated, "flexible manufacturing" factory operations allow multiple products to be produced efficiently in the same plants; thus, allowing greater economies of scale in peacetime and rapid conversion -- in order to increase military production -- should world conditions demand it. However, today, unique military buying practices, cost accounting standards, regulations, specifications, etc., all retard -- or even prohibit -- such military-civil integration. Clearly, this "defense uniqueness" must be stopped! It is no longer affordable and today's

technology does not require it. Again, responsibility for achieving the shift toward an integrated civil/military industrial base -- that is competitive on a world-wide basis and yet can be domestically located (utilizing a high-skilled U.S. labor force and advanced manufacturing equipment) -- is the dual responsibility of both the Executive and Legislative branches. To date, we have been hearing many speeches about the desirability of a shift in this direction -- from representatives of both Congress and the Executive Branches -- but actual laws and regulations have frequently forced industry to move in the opposite direction. It is time for DoD leadership to move out with an explicit delineation of a "defense technology strategy" and for both the Congress and the Administration to take the necessary steps to achieve effective and rapid implementation of such a strategy. As in the other areas of needed change, without such a program the deteriorating trends of recent years are bound to continue -- to the nation's economic and security detriment.

The time for action is now; I believe that these hearings can be an important step in moving the nation forward toward the needed changes in the three interrelated areas of: national security planning and budgeting; weapons acquisition; and defense industry restructuring. The American taxpayers deserve no less.

PERSPECTIVES

JACQUES S. GANSLER

A Defense Budget Process as if Dollars Mattered

The United States spends approximately $300 billion a year on national security, but most observers agree that it does not get its money's worth. Defense fiscal planning, they say, is clearly inefficient, often ineffective, and in dire need of reform. All this talk, unfortunately, has not provoked much action. But now, with rapidly changing conditions in the Soviet bloc, the size of the defense budget shrinking, and weapon system costs continuing to rise, the time for significant changes has arrived.

One essential change is to shift to a multiyear budget. The United States is the only nation in the developed world that operates its defense program on the basis of a one-year commitment, which annually wastes tens of billions of dollars.

When communication between Congress and the administration is focused on the coming 12 months (and often on an even shorter term, since we frequently don't get the budget approved by the beginning of the fiscal year), debate inevitably focuses on jobs that will be lost if programs are cut back or canceled. There is no time for serious discussion of the underlying issues: threats to our security, the levels of acceptable risks, the strategies to be adopted, the changes in forces and programs required, and, of course, the specific resources that will be needed over the coming years to implement the conclusions reached. The only way to shift this debate from a short-term, narrow-interest perspective to a focus on the broader, strategic issues is to move to a longer period of commitment—by both the Pentagon and the key committees of Congress.

Long-term commitments, in place of year-to-year changes, will save us billions while enhancing effectiveness.

Individual programs really don't need to be altered year-to-year because military technology and infrastructure change rather slowly; thus, numerous analyses have shown that greater budget predictability can have a dramatic impact on reducing weapons' costs while improving their effectiveness. Yet frequent change, not stability, is the rule for weapon systems, with literally thousands of defense programs "adjusted" each year as they wend their way through the budget process, first on one side of the Potomac and then on the other.

And each change begets further changes: When an individual program is modified, there is a ripple effect throughout all the other programs (and their industrial contracts). The usual result is that essential programs are stretched out to such low and inefficient production rates that their costs are driven skyward. For example, stretching out purchase of the F-15 aircraft by three years more than was planned (in order to lower the annual dollars required) actually had the perverse effect of adding $2 billion to the program's cost, over and above inflation. Unlike buying commodities at the grocery store, reducing the quantity of weapon systems does not proportionally reduce the cost.

A better idea

At the recommendation in 1986 of the President's Blue Ribbon Commission on Defense Management (the "Packard Commission"), the

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Department of Defense shifted to a biennial budget process with the intent that the two-year budget be voted on at the beginning of each Congressional term. But whereas the House and Senate Armed Services Committees made some attempt to adapt to the new procedure, both Appropriations Committees have simply gone about their business in the normal, one-year way. From a political perspective, the Committee members' reluctance is perfectly understandable; they want to vote annually on projects for their district or state, in order to show their constituents that they are doing everything possible on their behalf.

Fortunately, there is an alternative that would still allow the Appropriations (and even the Authorizations) Committees to vote annually on programs, but that would also eliminate the narrowly focused debate and gross inefficiencies of a one-year fiscal plan. It is the "rolling, multi-year budget."

In most countries, a fiscal plan is approved by the government for, typically, a five-year period. It is voted on annually by the legislature, but the vote is on the funding level and program content of the sixth year. Thus, politicians have the opportunity to fight annually, and just as fiercely, for programs that benefit their constituents, but they are fighting for the programs that will be inserted in the sixth year rather than in the next six months. Naturally, should world or domestic conditions dramatically change, the government is able to make revisions in the "top line" of the previously approved funding levels; but this occurs relatively rarely, and it is not done on a line-by-line basis for each program. The result is that debate shifts toward long-term rationality of fiscal plans, and considerable stability is introduced into a process that in the United States is still chaotic.

Actually, the U.S. Congress (since the 1974 Budget Act) does go through a three-year budget process in the two Budget Committees. But it is nominal; all but the first year are totally ignored by the executive branch and by the Authorization and Appropriations Committees of both the House and the Senate.

The outlook for change is not as discouraging as it might seem, however. The needed reform—an improved budget process—is essentially already in place. All that's required to realize its benefits is for the United States to take the three years seriously.

Here's how the process should work: The first year would form the coming year's budget, as is the case today, but the next two years would also be considered firm. The executive branch, in preparing the subsequent budget for the next January submittal, would then add a new "third year"—the only subject for congressional debate. In essence, the Congress would be approving (both in terms of Authorizations and Appropriations) a three-year fiscal plan on an annual but revolving basis.

To commission a commission

Although it would result in dramatic changes, such a plan has few opponents—but also, alas, few champions. Almost everyone in government seems to agree that the current process is ridiculous and that a multiyear budget process is a good idea. In fact, many suggest that even a three-year commitment, although an important step in the right direction, isn't enough. Nevertheless, no one seems able to confront the issue.

Historically, both the executive and the legislative branches seem to be more disposed to implementing the recommendations of outside commissions on needed, but difficult, changes than to initiating their own actions. What is required, then, is some form of "Budget Commission" (with congressional and administration representatives as well as outside experts) to make specific recommendations on the details of a transition to a rolling three-year defense budget process. The relevant committee leaders in the House and Senate need only take the first step—by proposing legislation to set up the commission.

The argument for an annual budget process may have made sense long ago when the government budget was relatively small, when the lead time for procurement of most items was relatively short (in contrast to the 8 to 15 years it now takes to develop and produce a weapon), and when there were no Budget Committees to take part in directing the government's cash flow. But now it is time for a change. There is no need to continue incurring the multibillion-dollar costs of instability in the defense budget process. It is time to recognize that both Congress and the executive branch must give up a little of their precious "flexibility" (the inverse of stability) in order to improve the efficiency and effectiveness with which they spend the taxpayers' money.

Chairman NUNN. Thank you very much, Dr. Gansler.

Would you tell us what legislative changes you would recommend in order to have the defense technology strategy, which you have clearly set forth a case for? What legislative changes would you recommend?

Dr. GANSLER. I think it is primarily removing the current legislative barriers that exist. Bill mentioned, for example, the discouragement, if not outright legal prohibition, against using IR&D for commercially relevant——

Chairman NUNN. Is that by law or by regulation?

Dr. GANSLER. There is an ambiguity to it, Senator. Some people say it is by law, some say it is by interpretation of the regulation.

The point I was trying to make is that you can say what you would like to have done, and the laws can be moved, and in some cases even interpreted in those directions. There are so many of these—and the cost accounting standards, how those are interpreted. The issue of competition now is based primarily on the principle that the technically acceptable low-bid wins—well, that is so inconsistent with best commercial practices, where commercial industry is moving in the direction of continuous product and process improvement. So you have a set of regulations and laws that go almost all in the opposite direction. The FAR starts off by saying if there is a Mil. Spec. for something, use it, if not, you can use commercial practices.

Well, that is exactly the opposite of what one would like to have.

Chairman NUNN. What says that?

Dr. GANSLER. The Federal Acquisition Regulations.

As Bill said, even in the specifications, you have the same thing. In the electronic specifications——

Chairman NUNN. I am again looking at this from our point of view. I know from your point of view you are looking at how do you swallow the whole problem.

We have spent a lot of time waiting on some kind of strategy to come out of the Department of Defense, and I do not think that we are going to get it. So my question is, what do we do legislatively? You have listed one legislative impediment. What are the other legislative impediments, because the other things were rules and regulations?

Dr. GANSLER. Well, I think you are going to have to actually go almost one by one, because of the interlocking nature of these. The procurement practices, the Competition and Contracting Act, for example, which says full and open competition, versus effective competition. Effective competition is commercial practice, full and open is Government practice.

The cost accounting standards, and when and where they are applied. As I said, I think this is a sort of a negotiation between the executive and legislative branches, but it is much more the idea of trying to specify what it is that the Congress really wants. You have been encouraging them to develop this strategy. I think they are starting to respond to it. I think they need additional encouragement.

Senator Bingaman has been pressing on the critical industries list. The Department of Defense is trying to respond to that gradually, by converting it from a list into a strategy. The strategy then

will have to identify—as Bill and I are both saying—the barriers to integration. Maybe we have to ask them specifically, within the executive branch, to identify these barriers better and propose removals. You have asked a few times. In the past they have said that minor things were all that were required. Take them up on it and measure the success of the conversion towards an integrated system.

It clearly is not a single bill that you can put out, Senator. That is the problem. It is the interrelationship between the procurement practices, the cost accounting practices, a lot of the socioeconomic legislation which may not apply in the commercial world. It is trying to be a world-class buyer.

Even some of the conflict of interests—the criminalization. There are many commercial firms today who will not do defense business, simply because they are afraid to go to jail if they fill a time card out wrong.

There are so many constraints. And when we looked recently at case studies, what it turned out was that the first one turned out to be the cost accounting standards and the auditing associated with it—the things in terms of revealing price data and audibility of price data, which commercial prices just don't allow, because the market takes care of that.

In other words, we have a market, and that is the basis of our whole economic system—the capitalistic, competitive marketplace. We should not then have to pass laws that say we are going to come in and audit your plant, we are going to audit your processes. If people are delivering marketplace-tested, high-quality, low-cost, high performance goods, that should be sufficient for the government, if it is going to be a world-class buyer.

Chairman NUNN. We could write letters, and we could make speeches, and, of course, we can refuse to do certain things the Department wants. There are a lot of things we can do. But in the final analysis, the way we have to speak is through legislation. That is the way we send messages to the Department, is to put a law on the books. That is the ultimate legislative power. And that is the only legislative power in the final analysis, unless the executive branch prefers to cooperate.

So, I guess what we have to do, in the absence of this kind of strategy coming from the Department of Defense, is to develop a legislative package. It might be coupled with a number of those other things.

Do you have any kind of legislative package that would be available? Have you written, or could you present, could you put together certain features? I ask the same question of Dr. Perry.

An awful lot of what you suggest, Congress has to be a part of. But the question I have, is how do we initiate it? Because I think it is clear that it has to be initiated here, right now.

Dr. GANSLER. There was some preliminary analysis done in terms of—The Packard Commission—that was done for us, trying to identify some of the specific legislative barriers that existed at that time, in 1986. I have not seen any good legal analysis of the constraints updated since then. But I think that is the way I would start, with an in-depth analysis of the specific constraints and how those relate to specific legislation.

Chairman NUNN. We are going to have to have the equivalent in acquisition, what we had on the reorganization, Goldwater-Nichols, in effect.

Dr. GANSLER. This is a dramatic cultural change. Very similar things to Goldwater-Nichols.

Chairman NUNN. A lot of things in Goldwater-Nichols did not have to be in law. I mean, there were all sorts of things the executive branch could have done. Of course, Congress, for the first years, when presidents were advocating this move, was blocking any change. But after years and years of this, once Congress decided to move in the direction that Truman and Eisenhower and others had advocated years before, it had to be done in the form of an overall, comprehensive legislative package, and it was a 2—it was probably a 3- or 4-year effort.

Dr. GANSLER. It is a major undertaking. Basically, it is a cultural change in the same way that the Goldwater-Nichols Act was, and it will take a good deal of time and effort—perhaps even more in this case, because of the institution that is built up. It has been building up much more over the last four or five years. There have been something in the range on the average of 52 significant legislative actions in the procurement area per year, taking place over the last 6 years.

Chairman NUNN. So the situation has gotten worse?

Dr. GANSLER. That is what I mean. Absolutely.

Chairman NUNN. You have noted, Dr. Perry, that the Department appears to have moved backward in its acquisition and use of commercial products. And, Dr. Gansler, you have stressed the importance of increasing the acquisition of commercial products, rather than unique military products.

In the acquisition of weapon systems, what areas present the greatest opportunity—I would pose this to both of you—for increased use of commercial or off-the-shelf products, as well as commercial companies. What are the areas that we would be talking about?

Dr. PERRY. Semiconductors, computers, software, trucks, and cars—those are the areas that come immediately to mind. There are more than that, but the aggregation of that set in itself would amount to a very large number of dollars.

Dr. GANSLER. I think it is important—I would add to that maybe a few things like machine tools, manufacturing technology areas, structural materials—but I think it is important to emphasize here that the concept of integration that both of us talked about extends not just to the buying of products. In fact, that may be misleading in a certain sense, because at the same time, if we are going to improve national competitiveness, and have a domestic base that the Department of Defense can draw on, then you really need to begin the process in the R&D phase. And it is really the developing of common components for the civil and military technologies that will meet the military need, but also allow U.S. firms to have a commercial edge. In the case of electronics that Bill started off with, defense is only a 2 percent user. So if we develop items that are just defense-unique, we are going to start off in the wrong direction.

Chairman NUNN. Dr. Gansler, in your testimony you stated that the emphasis over the last decade on competing to get the cheapest equipment must change. And that good performance must be rewarded and bad performance penalized.

Do you believe, or does either of you believe, that this concept requires an amendment to the Competition in Contracting Act, or does the Act provide sufficient discretion for the Department to implement the changes through strong management and clear directives?

Dr. GANSLER. I think the Act allows the Department of Defense to compete for quality. In my interpretation of it, I think that the Act tends to discourage them from doing it with things such as the words "full and open competition" as contrasted to "effective competition" which would be the more commercial practice.

I think that the main thrust of it, again, is more of a philosophic one. There are other barriers besides just the Competition in Contracting Act, by the way, in terms of the whole institutional way in which one does procurement practices.

I think there are many situations where a company that does a good job, i.e., where the quality is improving and the costs are falling significantly, that then to have competition for its own sake—which is basically what the Competition in Contracting Act almost would require—is probably the wrong thing under those circumstances.

What the Department of Defense needs is the flexibility to do competition when it makes sense and to do it for quality; and costs will go down. The Competition in Contracting Act has more of the flavor of you will do it all of the time whether it is good for you or not, and you will try to base it on low cost.

There are other considerations associated with the procurement practices that I think also we would need to change, along with the Competition in Contracting Act, in order to have an environment that is emphasizing high quality rather than simply cheapest.

Chairman NUNN. In the commercial sector, a commercial company that wants to get high quality and does not go strictly for the cheapest price really does not have a lot of other pressures pulling on them.

They do not have Congress, they do not have districts. They are not worrying about somebody going out of business because that may deplete the industrial base. The Defense Department is unique. So when you create this encouragement for more discretion, less objective and more subjective judgments, you really do open up in the government something that is not there in the commercial sector.

And so the question is what parameters do you put around it. You also open up the possibility of not only political pressures and economic pressures, but also abuse of that discretion, fraud, kickbacks—all sorts of things.

Do you have any suggestions about how you do this and still keep some general——

Dr. GANSLER. I generally think that the concept of competition can be applied much more widely, but in a more controlled use. For example, rewarding firms that do a good job is what the real market does and what the Government should do. To not reward

good performance is simply the wrong way for the Government to go.

I do think that you can have a continuous competition, for example, for research and development that will result in greatly improved products without eliminating the marketplace. It is not an either/or operation. I do not think that you have to eliminate competition by any means.

I think what you have to do, though, is eliminate the emphasis that says if I can buy, in the case of professional services, an engineer for $6.50 per hour who has a degree, that that is the best engineer for the Government. That is just not the way that all of the rest of us would buy our services. We would not buy our heart surgeon at the lowest hourly rate.

And so I think we need to, within the constraints of public funds, Senator, I do not think that one should mix the illegal action question—the so-called waste, fraud and abuse, the illegal abuses—those people ought to go to jail, have their hands chopped off, or whatever penalties we decide are the appropriate ones for illegal actions.

I do not think that that is the major problem with the $170 billion a year that we spend. I do not think it is illegal, I think it is misuse. And the misuse is the management abuse. It is the management attention, I think. We may end up having a little better management—more management judgment and a few bad judgments, but we will not completely destroy the system—in terms of its efficiency and effectiveness—if we allow some management judgment.

By the way, I would argue that with management judgment goes professionalism. I would not encourage the delegation of authority to people with no experience.

Chairman NUNN. We also have a tremendous changeover problem in defense, a revolving door problem in defense and a lot of other things get into it.

Senator Exon, then Senator Bingaman.

Senator EXON. Mr. Chairman, thank you very much. Two quick questions.

First, I appreciate both of you fine gentlemen being here to give us your counsel and advice. I certainly agree with the theme that is running very loud and clear through these hearings that if there is any place where we have an edge it is in technology, and we must not destroy that technology base. I mean, I think that that is still the strongest lead that we have.

In that regard, Dr. Gansler, you said in your testimony, and I quote, "Of greatest concern is the rapid loss of U.S. leadership in critical defense technology."

Do you view the firing of Craig Fields as head of DARPA to be indicative of this role? What role do you think DARPA should play in revitalizing the defense technology strategy for the United States?

Dr. GANSLER. I think DARPA has had an outstanding history of helping both the Defense Department, and as a result of work that they have done in terms of their research, helping the Nation—in computers, electronics, materials, in stealth characteristics, in satellites, and so forth. I think that is an example where we have

given some management judgment, the point we were just talking to Senator Nunn about.

In the past they had much more flexibility, by the way, in the way in which they ran their competitions. They always ran competitions. They would have qualified sources come in, they would discuss with them their problem, and they would pick two of them—say—to go off and do the job. We need to allow that kind of management flexibility that DARPA has had.

Their history is one of continuing to push the state of the art, to help both the military, as the dominant factor, but also to get some significant results and impacts in the commercial side.

I happen to think that there is a concern, as a result of the action on Craig Fields, that maybe DARPA should not be getting as much attention. And there is always a concern in a period when resources are being cut back, and there are battles between, say, DARPA and the services as to where the resources are going to go.

I happen to think that the technology base of the Nation is absolutely critical. I think DARPA has done an outstanding job in the work that they have done, and they should be continued—in fact, I would argue, increased in their focus and attention.

Senator EXON. Let me ask both of you this question.

You are both familiar, I am sure, with the funding levels for the SDI program, roughly $3.5 billion, last year. The President requested about a $1 billion increase up to $4.5 billion. There are going to be some significant cuts, I predict, in the area of SDI.

Given the overall concerns expressed here, and given the budget constraints that we are under, would either of you hazard a guess as to how much money you think would be the minimum that should come out of the deliberations for next year's SDI funding—$4.5 billion, $3.5 billion, $3 billion, $2 billion? To what general range would you think that we could continue our research and development without moving to actual deployment?

Dr. PERRY. Senator Exon, I do not think that there is any likelihood that the circumstances will arise in which we will want to deploy an SDI system in the foreseeable future. Therefore, I think an appropriate act on SDI is to maintain a vigorous, robust technology program in these very important technologies.

If you state your goal as that, rather than trying to lead to a near-term deployment, I believe you can construct a robust technology program at about a $3-billion-a-year level.

Dr. GANSLER. My reaction to it is that I put the SDI program into the category that I mentioned in my testimony, of those things that can make a qualitative difference. And therefore, the Nation cannot afford not to pursue those opportunities that represent a qualitative difference.

The question of the dollar value, it seems to me, is—you have to recognize that within the SDI, there are a lot of different things being done. Some of them are just aimed at the warning areas, some at other areas. So, I would rather not hazard a number without having to take it apart.

The worst part, I think, though, and I support Bill in that regard, totally, would be to impact the research and technology aspects of it. So, if I were going to try to identify it, I would go along with, looking at first at the mission areas, and then at the technol-

ogy areas, to make sure that we do not go below some minimum acceptable level there and scrap it.

Senator EXON. I just want to press you a little bit further. I know it is hard for you to come up with figures in these things.

Do you think that $3 billion would be too low?

Dr. GANSLER. Senator, I would study it much more carefully before answering. I would rather not.

Senator EXON. He is refusing to answer on advice of counsel. [Laughter.]

Senator EXON. Thank you, gentleman. Thank you, Mr. Chairman.

Chairman NUNN. Thank you. Senator Bingaman.

Senator BINGAMAN. Let me first just ask Dr. Perry, regarding your comment about what needed to continue at a robust level in the SDI budget—do I take it that you do not believe that it makes sense for us to put significant dollars into the early-deployment options that are part of that program?

Dr. PERRY. That is correct, Senator Bingaman. My judgment about the size of the budget was based on my belief that there is no basis, either in national needs or in technology readiness, for proceeding to any near-term deployment of the system.

Senator BINGAMAN. So the money that we are pouring into the Brilliant Pebbles activity, in your view, could be better spent elsewhere?

Dr. PERRY. I think the Brilliant Pebbles is a technology worth pursuing. What I would not do, though, is pursue it from a point of view of full scale development funds.

Senator BINGAMAN. So you would permit some continued research in that area, but nothing more?

Dr. PERRY. Yes. I think it is an appropriate program for what we call 6.3 research, but I see no basis for extending it beyond that at this stage.

Senator BINGAMAN. As you know, we have tried to do something in this area of critical defense technologies. And what we have done is to not only require DOD to come up with a list of what they thought was important, but also, in this last year's bill, to require the President's Science Advisor, through the Office of Science and Technology Policy to convene a national panel to put together a list that would be both defense, and non-defense, to pick up on the point that both of you made about trying to integrate our defense and non-defense technology base activities.

I agree with your point, Dr. Gansler, that it is not enough just to have a list. We have to actually have a strategy for what we are going to do.

One thing we were considering this year, which, I think is perhaps a step in the right direction—it is one I have talked to Dr. Perry about a little bit—is trying to provide some high-level capability within the Office of Science and Technology Policy or associated with that office, which could help that panel and the President's Science Advisor to monitor progress and to, in fact, determine how well we are doing in these critical areas. We have talked about some kind of a critical technologies institute that would have that specific function, or perform that specific function as a national matter. Does that make sense?

Let me ask Dr. Perry first, and then Dr. Gansler.

Dr. PERRY. I think that it is very important to have increased leadership at the national level in our technology program. The Office of Science and Technology is a logical place for providing that leadership. They have a very small staff. And therefore, the notion of a critical technology institute to provide some support to them, I think is an excellent idea.

I might add to that that I have also proposed, as part of the work that I am doing with the Carnegie Commission, that a national security technology advisory panel be established, which would be jointly sponsored by the Office of Science and Technology and the President's National Security Advisor. It is not just a matter of getting this technical support at the national level, but to the extent this technology advice is focused on national security questions, then I think it is important to involve the President's National Security Advisor as well.

If that advisory panel were established, it could play, it would seem to me, a key role in helping and providing some oversight for this critical technology institute, if it were then established.

Senator BINGAMAN. Dr. Gansler?

Dr. GANSLER. Yes, I would tend to agree with Bill. I think that there is a danger in losing this focus on what the nation needs from a security viewpoint as well as from a competitiveness viewpoint. And so if one, particularly in the initial thrust, were to use the defense rationale as the primary driver but with the competitiveness one as the secondary one, because defense needs to buy domestically and therefore we have to be internationally competitive.

I would suggest that something of the sort you are describing would have participation by Defense and by Commerce. I think Commerce should play a role, too, and I think OSTP would be a logical place for integrating it.

I would emphasize the point that you made about its function to be that of monitoring, not just simply to put out an annual list. The whole concept of moving towards statistical quality control in factories, and other things to make sure you are achieving something—there is a real danger that we have a lot of activity and no achievement. And I would like to see us implement some way of monitoring our progress, not just simply saying we put out a new directive and a new list.

Senator BINGAMAN. Thank you very much.

Thank you, Mr. Chairman.

Chairman NUNN. I think you just described our legislative process—a lot of activity and no achievement, which tells us that we have to go vote.

Thank you very much. You have both been a great help.

[Whereupon, at 11:10 a.m., the committee was adjourned.]

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